

Date: January 2000	Copy No.: 145a
To: D. A. Isom	Document No.: DOE/RL-88-21
MSIN: H6-08	Title: HANFORD FACILITY DANGEROUS WASTE PART A PERMIT APPLICATION
	Revision Release No.: Revision 25

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Please update your manual with the attached pages, sign, date, and return this sheet. If you no longer require the document, please return the document, with this sheet, to the address below.	
Name: <u>DA Isom</u>	Date: <u>2/7/00</u>

HANFORD FACILITY DANGEROUS WASTE PART A PERMIT APPLICATION

Revision

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HANFORD FACILITY DANGEROUS WASTE PART A PERMIT APPLICATION

Revision

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HANFORD FACILITY DANGEROUS WASTE PART A PERMIT APPLICATION

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Permitting Status for Dangerous Waste Treatment, Storage, and/or Disposal Units.

Unit	Co-op ¹	Area ²	Unit type T=treatment S=storage D=disposal	Waste type M=mixed D=dangerous	Unit classification ³	Document type ⁴	Part A			Part B		Closure plan		Postclosure		Date closed
							Initial	Latest	Rev.	Latest	Rev.	Date	Rev.	Date	Rev.	
100 Area																
1324-N Surface Impoundment	BHI	100	T	D	7	2,3	08/01/86	06/30/94	3							
105-DR Large Sodium Fire Facility	FH	100	TS	D	1,13,17	3	11/01/85	05/11/98	4			03/95	2			
1706-KE Waste Treatment System	FH	100	TS	M	3,13	2	08/01/86	10/01/96	3							
183-H Solar Evaporation Basins	BHI	100	TS	M	3,4	4	11/01/85	06/30/94	4			06/30/94	4	06/97	0	
1301-N Liquid Waste Disposal Facility	BHI	100	D	M	11	2,3	08/01/86	02/25/97	7							
1325-N Liquid Waste isposal Facility	BHI	100	D	M	11	2,3	02/01/87	02/25/97	7							
1324-NA Percolation Pond	BHI	100	TD	D	8,13	2,3	08/01/86	06/30/94	3							
100-D Ponds	BHI	100	TD	D	8,13	2,3	08/01/86	06/30/94	4			03/01/93	0			08/09/99
200 Areas																
221-T Containment Systems Test Facility	FH	200W	T	D	13	8	11/01/85	10/01/96	3							02/22/99
200 West Area Ash Pit Demolition Site	Other	200W	T	D	13,15	2	11/01/85	11/04/94	4			10/06/94	1			10/26/95
218-E-8 Borrow Pit Demolition Site	Other	200E	T	D	13,15	2	11/01/85	11/04/94	4			10/21/94	1			10/26/95
242-A Evaporator	FH	200E	TS	M	3,4	1	09/01/87	10/01/96	7	07/97	1					
Grout Treatment Facility	FH	200E	TSD	M	3,4,7,11	12	09/01/87	12/22/99	5	07/24/92	2					
T Plant Complex	FH	200W	TS	M	1,2,3,4,10,13	1	12/01/87	12/23/98	7	12/19/95	0					
241-Z Treatment and Storage Tanks	FH	200W	TS	M	3,4	7	12/01/87	04/14/97	5			12/31/96	0			
B Plant Complex	FH	200E	TS	M	1,3,4,10	7	12/01/87	08/26/99	7							
222-S Laboratory Complex	FH	200W	TS	M	1,2,3,4	1	11/25/87	12/23/98	7	12/21/91	0					
204-AR Waste Unloading Station	CHG	200E	T	M	4	1	12/01/87	10/01/96	4							
PUREX Plant	FH	200E	TS	M	3,4,10	7	12/01/87	10/01/96	8							
Hanford Waste Vitrification Plant	RL	200E	TS	M	1,3,4,12,13	13	05/01/88	09/30/99	5	10/01/91	2					
200 Area Effluent Treatment Facility	FH	200E	TS	M	1,3,4	1	06/26/91	05/11/98	3	07/97	0*					
Waste Receiving and Processing Facility	FH	200W	TS	M	1,2	1	01/25/95	06/28/99	3	05/22/98	1					
Plutonium Finishing Plant Treatment Unit	FH	200W	T	M	2	6	12/23/98	12/23/98	0							
2727-S Storage Facility	Other	200W	S	D	1,15	2	11/01/85	11/16/87	2			10/07/92	3A			06/27/95

Permitting Status for Dangerous Waste Treatment, Storage, and/or Disposal Units.

Unit	Co-op ¹	Area ²	Unit type T=treatment S=storage D=disposal	Waste type M=mixed D=dangerous	Unit classification ³	Document type ⁴	Part A			Part B		Closure plan		Postclosure		Date closed
							Initial	Latest	Rev.	Latest	Rev.	Date	Rev.	Date	Rev.	
Double-Shell Tank System	CHG	200EW	TS	M	3,4	1	09/01/87	12/22/99	8	06/28/91	0					
Hexone Storage and Treatment Facility	BHI	200W	TS	M	1,3,4	2	12/01/87	06/30/94	3			11/24/92	0			
2727-WA SRE Sodium Storage Building	FH	200W	S	M	1	8	12/01/87	10/01/96	1							02/22/99
PUREX Storage Tunnels	FH	200E	S	M	12	1	12/01/87	10/01/96	5	04/14/97	4					
224-T Transuranic Waste Storage and Assay Facility	FH	200W	S	M	1	2	12/01/87	10/01/96	6	06/30/92	0					
Central Waste Complex	FH	200W	TS	M	1,2	1	05/01/88	06/28/99	6	05/22/98	1					
Single-Shell Tank System	CHG	200EW	TS	M	3,4,5	11	02/01/88	12/22/99	4			09/30/89	Draft			
207-A South Retention Basin	FH	200E	S	M	6,	6	02/26/90	10/01/96	2							
Liquid Effluent Retention Facility	FH	200E	TS	M	6,7	1	02/26/90	05/22/98	6	07/97	0*					
241-CX Tank System	BHI	200E	S	M	3	6	07/10/90	06/30/94	3							
Waste Encapsulation and Storage Facility	FH	200E	S	M	12	6	12/19/97	12/19/97	0							
IHLW Interim Storage Unit	FH	200E	S	M	1	12	06/28/99	06/28/99	0							
Low-Level Burial Grounds	FH	200EW	SD	M	1,11	1	11/01/85	12/23/98	11	07/97	1					
216-S-10 Pond and Ditch	BHI	200W	D	M	8	2,3	02/01/87	06/30/94	3				0			
2101-M Pond	Other	200E	D	D	8,15	2	08/01/86	11/16/87	2			07/01/94	2A			10/26/95
216-A-29 Ditch	BHI	200E	TD	M	8,13	2,3	08/01/86	06/30/94	3				0			
216-B-3 Main Pond	BHI	200E	TD	M	7,8	2,3	08/01/86	06/30/94	5							
216-B-63 Trench	FH	200E	TD	M	7,8	2,3	08/01/86	10/01/96	3				0			
216-A-10 Crib	BHI	200E	D	M	11	2,3	08/01/87	06/30/94	3							
216-U-12 Crib	BHI	200W	D	M	11	2,3	08/01/87	06/30/94	3							
216-A-36B Crib	BHI	200E	D	M	11	2,3	02/01/88	06/30/94	1				0			
216-A-37-1 Crib	BHI	200E	D	M	11	2,3	02/26/90	06/30/94	2							
216-B-3 Expansion Ponds	Other	200E	TD	M	7,8,15	2	12/16/93	12/16/93	0			10/31/94	2			06/27/95
300 Area																
3718-F Alkali Metal Treatment and Storage Area	FH	300	TS	M	1,4,13	2	11/01/85	10/01/96	4			11/20/95	2			08/04/98
324 Pilot Plant	PNNL	300	T	M	4,16	8	11/01/85	05/19/88	3							06/09/97
304 Concretion Facility	Other	300	TS	M	1,2,15	2	08/01/86	06/21/90	4			11/30/93	2			11/30/95
300 Area Solvent Evaporator	Other	300	TS	M	1,4,15	2	11/01/85	03/27/90	4			09/24/92	3B			06/27/95

Permitting Status for Dangerous Waste Treatment, Storage, and/or Disposal Units.

Unit	Co-op ¹	Area ²	Unit type T=treatment S=storage D=disposal	Waste type M=mixed D=dangerous	Unit classification ³	Document type ⁴	Part A			Part B		Closure plan		Postclosure		Date closed
							Initial	Latest	Rev.	Latest	Rev.	Date	Rev.	Date	Rev.	
300 Area Waste Acid Treatment System	FH	300	TS	M	3,4,13	2	09/01/87	10/01/96	5			03/96	1			
303-M Oxide Facility	FH	300	T	M	9	2	05/01/88	10/01/96	1							
325 Hazardous Waste Treatment Units	PNNL	300	TS	M	1,2,3,4	1	05/19/88	06/30/97	4	06/30/97	1					
Biological Treatment Test Facilities	PNNL	300	T	M	13,16	8	05/19/88	05/19/88	0							12/10/96
Physical & Chemical Treatment Test Facilities	PNNL	300	TS	M	1,13,16	8	05/19/88	06/14/91	1							05/13/96
Thermal Treatment Test Facilities	PNNL	300	T	M	13,16	8	05/19/88	05/19/88	0							05/13/96
311 Tanks (incorporated into 300 Area Waste Acid Treatment System, Rev. 3)	FH	300														
303-K Storage Unit	FH	300	S	M	1	2	08/01/87	10/01/96	5			12/17/93	2			
305-B Storage Facility	PNNL	300	S	M	1	1	05/19/88	12/20/90	1	04/03/92	2					
332 Storage Facility	PNNL	300	S	M	1,16	8	05/19/88	05/19/88	0							04/21/97
300 Area Process Trenches	BHI	300	D	M	8	4	11/01/85	05/25/95	4			05/25/95	4			
400 Area																
437-MASF	FH	400	T	M	4	8	11/01/85	10/01/96	3							
4843 Alkali Metal Storage Facility	FH	400	S	M	1,15	2	09/01/87	10/01/96	3			09/95	1			04/14/97
Sodium Storage Facility and Sodium Reaction Facility	FH	400	TS	M	3,4	9	05/01/95	10/01/96	1							
600 Area																
Hanford Patrol Academy Demolition Sites	Other	600	T	D	13,15	2	11/01/85	12/15/94	4			12/15/94	1			10/26/95
616 Nonradioactive Dangerous Waste Storage Facility	FH	600	S	D	1	1	11/01/85	03/04/97	7	10/31/91	2					
600 Area Purgewater Storage and Treatment Facility	BHI	600	TS	M	12,13	10	02/20/90	09/11/98	3							
Nonradioactive Dangerous Waste Landfill	BHI	600	D	D	11	2,3	11/01/85	06/30/94	4			09/30/90	0			

Permitting Status for Dangerous Waste Treatment, Storage, and/or Disposal Units.

Unit	Co-op ¹	Area ²	Unit type T=treatment S=storage D=disposal	Waste type M=mixed D=dangerous	Unit classification ³	Document type ⁴	Part A			Part B		Closure plan		Postclosure		Date closed
							Initial	Latest	Rev.	Latest	Rev.	Date	Rev.	Date	Rev.	
3000 Area																
Simulated High-Level Waste Slurry Treatment/Storage	PNNL	3000	TS	M	1,2,15	2	05/19/88	08/12/94	2			11/07/94	6A			09/06/95

* Combined Part B permit application DOE/RL-97-03.

¹Co-op BHI -- Bechtel Hanford, Inc.
 FH -- Fluor Hanford
 PNNL -- Pacific Northwest National Laboratory.
 Other -- Closed by a previous co-operator.

²Area 100 -- 100 Area
 200E -- 200 East Area
 200W -- 200 West Area
 200EW -- Parts of a TSD unit are located in both the 200 East and the 200 West Areas
 300 -- 300 Area
 400 -- 400 Area
 500 -- Unused designation
 600 -- 600 Area
 3000 -- 3000 Area


³Unit classification 1 -- Container - Storage
 2 -- Container - Treatment
 3 -- Tank - Storage
 4 -- Tank - Treatment
 5 -- Waste pile
 6 -- Surface impoundment - Storage
 7 -- Surface impoundment - Treatment
 8 -- Surface impoundment - Disposal
 9 -- Incinerator
 10 -- Containment Building
 11 -- Landfill
 12 -- Miscellaneous - Storage
 13 -- Miscellaneous - Treatment
 14 -- Land treatment
 15 -- Certified clean closure; regulatory acceptance letter received.
 16 -- Certified procedural closure; regulatory acceptance letter received.
 17 -- Certified partial clean closure; regulatory acceptance letter received.

Permitting Status for Dangerous Waste Treatment, Storage, and/or Disposal Units.

- ⁴Document type
- 1 -- Part B
 - 2 -- Closure plan
 - 3 -- Partial closure
 - 4 -- Postclosure plan
 - 5 -- Closure work plan
 - 6 -- Undetermined
 - 7 -- TSD unit being closed, or anticipated to be closed, under Section 8.0 of the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement)
 - 8 -- Procedural closure in accordance with Section 6.3.3 of the Tri-Party Agreement or in response to withdrawal requests submitted in fulfillment of Tri-Party Agreement Milestone M-20-45
 - 9 -- To be designated as a TSD unit if the Fast Flux Test Facility sodium is determined to have no beneficial use
 - 10 -- Interim status TSD unit to be closed in accordance with the Purgewater Management Plan [Attachment 5 of the HF RCRA Permit (DW Portion)]
 - 11 -- TSD unit subject to the closure work plan/closure plan process in accordance with Tri-Party Agreement Milestone M-45-06
 - 12 -- Interim status TSD unit in a standby mode
 - 13 -- Interim status TSD unit is to be superseded by a high-level waste immobilization facility.
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WA7890008967

DOE/RL-88-21
Form 1-CHG
12/22/99

FORM 1	State of Washington Department of Ecology	WASHINGTON STATE	I. EPA/STATE I.D. NUMBER
		DANGEROUS WASTE PERMIT GENERAL INFORMATION (Read "Form 1 Instructions" before starting)	W A 7 8 9 0 0 0 8 9 6 7

II. NAME OF FACILITY					
US DEPARTMENT OF ENERGY - HANFORD FACILITY					
III. FACILITY CONTACT					
A. NAME & TITLE (last, first, & title)				B. PHONE (area code & no.)	
KEITH A KLEIN, MANAGER				509 376 7395	
IV. FACILITY MAILING ADDRESS					
A. STREET OR P.O. BOX					
PO BOX 550					
B. CITY OR TOWN		C. STATE	D. ZIP CODE		
RICHLAND		WA	99352		
V. FACILITY LOCATION					
A. STREET, ROUTE NO., OR OTHER SPECIFIC IDENTIFIER					
HANFORD SITE					
B. COUNTY NAME					
BENTON					
C. CITY OR TOWN		D. STATE	E. ZIP CODE	F. COUNTY CODE	
RICHLAND		WA	99352	005	
VI. SIC CODES (4-digit, in order of priority)					
A. FIRST		B. SECOND			
9999 NONCLASSIFIABLE		4953 REFUSE SYSTEMS			
C. THIRD		D. FOURTH			
9511 AIR AND WATER RESOURCE AND SOLID WASTE MANAGEMENT		8733 RESEARCH, NONCOMMERCIAL			
VII. OPERATOR INFORMATION					
A. NAME				B. Is the name listed in item VII-A also the owner? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
DEPARTMENT OF ENERGY					
CH2M HILL HANFORD GROUP, INC. (CHG)					
C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify)				D. PHONE (area code & no.)	
F = FEDERAL S = STATE P = PRIVATE	M = PUBLIC (other than federal or state) O = OTHER (specify)	F	(specify)	509 376 7395	
E. STREET OR P.O. BOX					
PO BOX 550 (DOE) PO BOX 1500 (CHG)					

F. CITY OR TOWN		G. STATE	H. ZIP CODE	VII. INDIAN LAND
RICHLAND		WA	99352	Is the facility located on Indian lands? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
IX. MAP				
Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers, and other surface water bodies in the map area. See instructions for precise requirements.				
X. NATURE OF BUSINESS (provide a brief description)				
<ul style="list-style-type: none">• NONCLASSIFIABLE - GENERAL• REFUSE SYSTEMS• AIR AND WATER RESOURCE AND SOLID WASTE MANAGEMENT• RESEARCH, NONCOMMERCIAL				
XI. CERTIFICATION (see instructions)				
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.				
A. NAME & OFFICIAL TITLE (type or print)		B. SIGNATURE		C. DATE SIGNED
SEE ATTACHMENT				

FORM 1

DANGEROUS WASTE PERMIT GENERAL INFORMATION

XI. OPERATOR CERTIFICATION

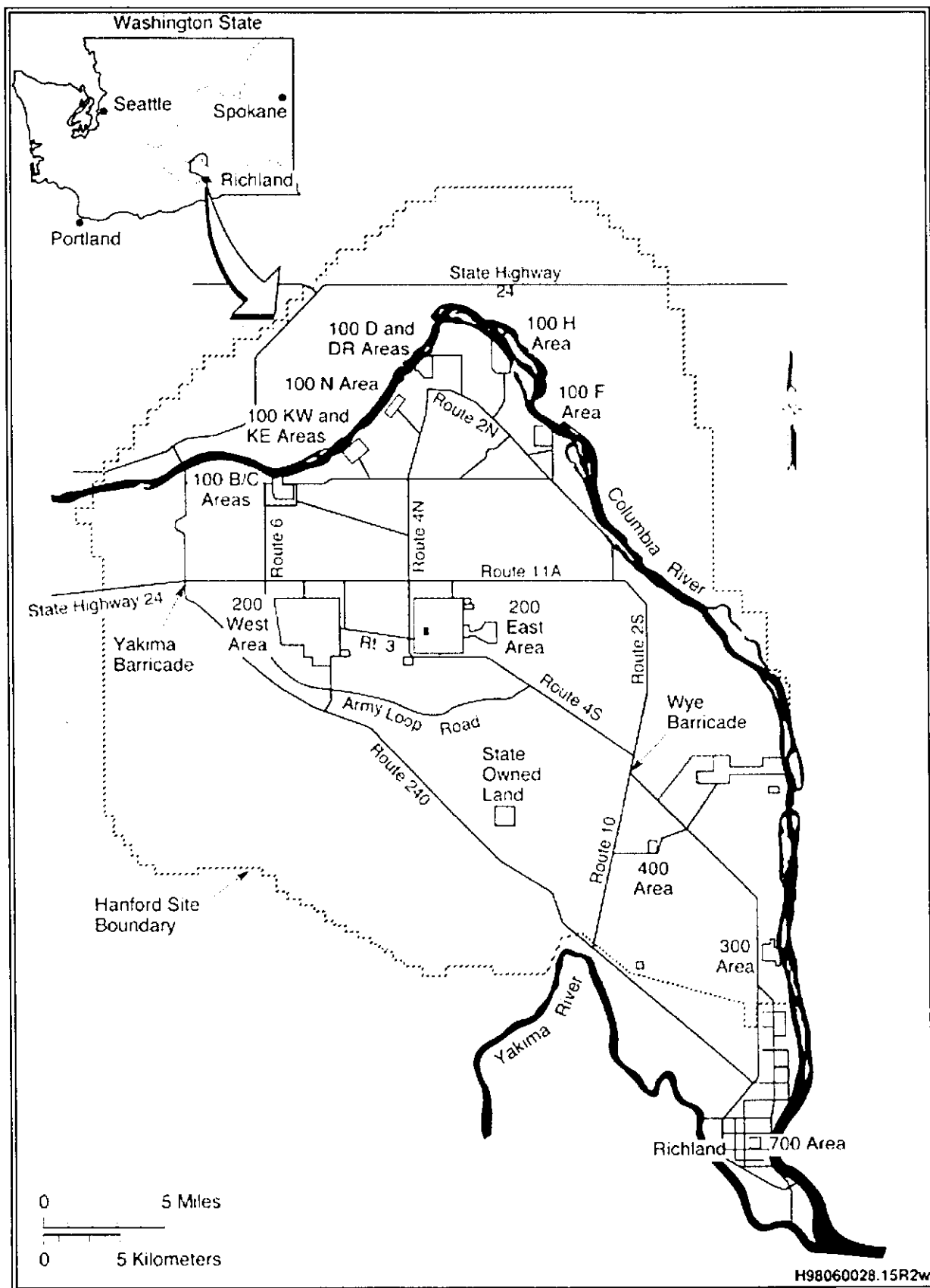
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

L. L. Piper for
Owner/Operator
Keith A. Klein, Manager
U.S. Department of Energy

12/21/99
Date

M. P. DeLozier
Co-operator
M. P. DeLozier
President and RPP General Manager
CH2M HILL Hanford Group, Inc.

12/22/99
Date



Please print or type in the unshaded areas only
(fill-in areas are spaced for elite type, i.e., 12 character/inch).

FORM 3	DANGEROUS WASTE PERMIT APPLICATION	1. EPA/STATE I.D. NUMBER <div style="border: 1px solid black; padding: 2px; display: inline-block;">WA 7 8 9 0 0 0 8 9 6 7</div>							
FOR OFFICIAL USE ONLY									
APPLICATION APPROVED	DATE RECEIVED (mo., day, & yr.)	COMMENTS							
II. FIRST OR REVISED APPLICATION									
Place an "X" in the appropriate box in A or B below (mark one box only) to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA/STATE I.D. Number, or if this is a revised application, enter your facility's EPA/STATE I.D. Number in Section I above.									
A. FIRST APPLICATION (place an "X" below and provide the appropriate date)									
<input type="checkbox"/> 1. EXISTING FACILITY (See instructions for definition of "existing" facility. Complete item below.)									
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">MO.</td> <td style="width: 10%;">DAY</td> <td style="width: 10%;">YR.</td> </tr> <tr> <td style="text-align: center;">01</td> <td style="text-align: center;">01</td> <td style="text-align: center;">77</td> </tr> </table> </div> <div style="width: 50%;"> FOR EXISTING FACILITIES, PROVIDE THE DATE (mo., day, & yr.) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED (use the boxes to the left) </div> </div>			MO.	DAY	YR.	01	01	77	
MO.	DAY	YR.							
01	01	77							
<input type="checkbox"/> 2. NEW FACILITY (Complete item below)									
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">MO.</td> <td style="width: 10%;">DAY</td> <td style="width: 10%;">YR.</td> </tr> <tr> <td style="height: 20px;"></td> <td></td> <td></td> </tr> </table> </div> <div style="width: 50%;"> FOR NEW FACILITIES, PROVIDE THE DATE (mo., day, & yr.) OPERATION BEGAN OR IS EXPECTED TO BEGIN </div> </div>			MO.	DAY	YR.				
MO.	DAY	YR.							
B. REVISED APPLICATION (place an "X" below and complete Section I above)									
<input checked="" type="checkbox"/> 1. FACILITY HAS AN INTERIM STATUS PERMIT									
<input type="checkbox"/> 2. FACILITY HAS A FINAL PERMIT									
III. PROCESSES - CODES AND CAPACITIES									
A. PROCESS CODE - Enter the code from the list of process codes that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the codes below, then describe the process (including its design capacity) in the space provided.									
B. PROCESS DESIGN CAPACITY - For each code entered in column A, enter the capacity of the process.									
1. AMOUNT - Enter the amount.									
2. UNIT OF MEASURE - For each amount entered in column B(1), enter the code from the list of unit measures that best describes the unit of measure used. Only the units of measure that are listed below should be used.									
PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY							
Storage:									
CONTAINER (barrel, drum, etc.)	T01	GALLONS OR LITERS							
TANK	T02	GALLONS OR LITERS							
WASTE PILE	T03	CUBIC YARDS OR CUBIC METERS							
SURFACE IMPOUNDMENT	T04	GALLONS OR LITERS							
Disposal:									
INJECTION WELL	D80	GALLONS OR LITERS							
LANDFILL	D81	ACRE-FEET (the volume would cover one acre depth of one foot) OR HECTARE-METER							
LAND APPLICATION	D82	ACRES OR HECTARES							
OCEAN DISPOSAL	D83	GALLONS PER DAY OR LITERS PER DAY							
SURFACE IMPOUNDMENT	D84	GALLONS OR LITERS							
OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Section III-C.)									
UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE							
GALLONS.....		LITERS PER DAY..... V							
LITERS.....		TONS PER HOUR..... D							
CUBIC YARDS.....		METRIC TONS PER HOUR..... W							
CUBIC METERS.....		GALLONS PER HOUR..... E							
GALLONS PER DAY.....		LITERS PER HOUR..... H							
ACRE-FEET.....		HECTARE-METER..... A							
HECTARE-METER.....		ACRES..... B							
ACRES.....		HECTARES..... Q							
HECTARES.....									
EXAMPLE FOR COMPLETING SECTION III (shown in line numbers X-1 and X-2 below): A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.									
LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY		FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY		FOR OFFICIAL USE ONLY
		1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)				1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)	
X-1	S 0 2	600	G		5				
X-2	T 0 3	20	E		6				
1	T 0 4	45,000	U		7				
2	D 8 4	19,600,000	G		8				
3					9				
4					10				

DOE/RL-88-21
Grout Treatment Facility
Rev. 7, 12/21/99

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(fill-in areas are spaced for elite type, i.e. 12 character/inch).

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FOR OFFICIAL USE ONLY		
APPLICATION APPROVED	DATE RECEIVED (mo., day, & yr.)	COMMENTS
II. FIRST OR REVISED APPLICATION		
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<div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <p>A. FIRST APPLICATION (place an "X" below and provide the appropriate date)</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <input type="checkbox"/> 1. EXISTING FACILITY <i>(See instructions for definition of "existing" facility. Complete item below.)</i> <div style="display: flex; justify-content: space-between; border: 1px solid black; padding: 2px;"> MO. DAY YEAR 03 22 1943 </div> <p><i>*FOR EXISTING FACILITIES, PROVIDE THE DATE (mo., day, & yr.) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED (use the boxes to the left)</i> <i>*The date construction of the Hanford Facility commenced.</i></p> </div> <div style="width: 48%;"> <input type="checkbox"/> 2. NEW FACILITY <i>(Complete item below)</i> <div style="display: flex; justify-content: space-between; border: 1px solid black; padding: 2px;"> MO. DAY YEAR </div> <p>FOR NEW FACILITIES, PROVIDE THE DATE, (mo., day, & yr.) OPERATION BEGAN OR IS EXPECTED TO BEGIN</p> </div> </div> </div> </div>		
<p>B. REVISED APPLICATION (place an "X" below and complete Section I above)</p> <div style="display: flex; justify-content: space-between;"> <input checked="" type="checkbox"/> 1. FACILITY HAS AN INTERIM STATUS PERMIT <input checked="" type="checkbox"/> 2. FACILITY HAS A FINAL PERMIT </div>		
III. PROCESS - CODES AND CAPACITIES		
<p>A. PROCESS CODE - Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process (including its design capacity) in the space provided on the (Section III-C).</p> <p>B. PROCESS DESIGN CAPACITY - For each code entered in column A enter the capacity of the process.</p> <p>1. AMOUNT - Enter the amount.</p> <p>2. UNIT OF MEASURE - For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.</p>		
PROCESS	PRO- APPROPRIATE UNITS OF CESS MEASURE FOR PROCESS CODE DESIGN CAPACITY	PROCESS
Storage:		Treatment:
CONTAINER (barrel, drum, etc.)	S01 GALLONS OR LITERS	TANK
TANK	S02 GALLONS OR LITERS	SURFACE IMPOUNDMENT
WASTE PILE	S03 CUBIC YARDS OR CUBIC METERS	INCINERATOR
SURFACE IMPOUNDMENT	S04 GALLONS OR LITERS	
Disposal:		
INJECTION WELL	D80 GALLONS OR LITERS	
LANDFILL	D81 ACRE-FEET (the volume that would cover one acre to a depth of one foot) OR HECTARE-METER	OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided: Section III-C.)
LAND APPLICATION	D82 ACRES OR HECTARES	
OCEAN DISPOSAL	D83 GALLONS PER DAY OR LITERS PER DAY	
SURFACE IMPOUNDMENT	D84 GALLONS OR LITERS	
UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE
GALLONS	G	LITERS PER DAY
LITERS	L	TONS PER HOUR
CUBIC YARDS	Y	METRIC TONS PER HOUR
CUBIC METERS	C	GALLONS PER HOUR
GALLONS PER DAY	U	LITERS PER HOUR
UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE
ACRE-FEET	A	HECTARE-METER
HECTARE-METER	F	ACRES
ACRES	B	HECTARES
HECTARES	Q	

EXAMPLE FOR COMPLETING SECTION III (shown in line numbers X-1 and X-2 below): A facility has two storage tanks; one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.						
LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY		FOR OFFICIAL USE ONLY		
		1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)			
X-1	S02	600	G			
X-2	T03	20	E			
1	T04	382,325	V			
2	T02	382,325	V			
3	S02	3,028	L			
4	T01	4,978	V			
5	D81	22.8	F			
6						
7						
8						
9						
10						

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESS (CODE "T04"). FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

T04, T02, S02, T01, D81

The Grout Treatment Facility (GTF) began waste management operation in August 1988. The GTF is designed to treat mixed waste by mixing the liquid waste with grout-forming solids in an in-line mixer (T04), which is part of a unit called the Grout Processing Facility. This process forms a slurry that is pumped to a concrete disposal vault. The vault is operated as a surface impoundment (T02) while the grouted waste slurry hardens. When the slurry material has hardened, the vault is sealed and closed.

The GTF has a total production capacity for treatment of approximately 382,325 liters (101,000 gallons) per day (24-hour period) (T04, T02). Treatment consists of mixing liquid waste with dry cementitious materials. The specific formulation of the dry material is predicated upon the specific constituents resident in the liquid waste stream.

The Liquid Collection Tank (LCT) stores potential mixed waste from any spill or leakage collected in the sumps, spent flush and decontamination solutions from the internal and external system cleanups, and the excess liquid and leachate pumped back from the vaults (S02). The LCT has a design capacity of 3,028 liters (800 gallons). The dangerous waste is treated in the LCT to make the waste more amenable for storage in the Double-Shell Tank (DST) System (T01). The LCT is capable of treating approximately 4,978 liters (1,315 gallons) per day of dangerous waste.

The GTF vaults have a design capacity of approximately 22.8 hectare-meters (185 acre-feet) consisting of 17.9 hectare-meters (145 acre-feet) of waste and 4.9 hectare-meters (40 acre-feet) of grout material (D81). The GTF could have a total of 43 individual vaults with each individual vault having a storage capacity of 0.53 hectare-meters (4.3 acre-feet) [5,299,560 liters (1,400,000 gallons)] of mixed waste.

The technology and process operation of the GTF was demonstrated from August 1988 through July 1989 with the treatment of 3,785,400 liters (1,000,000 gallons) of nondangerous waste. Processing of this waste generated leachate that was a corrosive mixed waste that was stored at the GTF and transferred to the DST System. Per Amendment Four of the Hanford Federal Facility Agreement and Consent Order, the GTF has been placed in a standby mode until other alternatives for processing DST System waste are studied.

IV. DESCRIPTION OF DANGEROUS WASTES

A. DANGEROUS WASTE NUMBER - Enter the four digit number from Chapter 173-303 WAC for each listed dangerous waste you will handle. If you handle dangerous wastes which are not listed in Chapter 173-303 WAC, enter the four digit number(s) that describe the characteristics and/or the toxic contaminants of those dangerous wastes.

B. ESTIMATED ANNUAL QUANTITY - For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE - For each quantity entered in column B enter the unit of measure code. Units of measuer which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE CODE		METRIC UNIT OF MEASURE CODE	
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES**1. PROCESS CODES:**

For listed dangerous waste: For each listed dangerous waste entered in column A select the code(s) from the list of process codes contained in Section III to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non-listed dangerous wastes: For each characteristic or toxic contaminant entered in Column A, select the code(s) from the list of process codes contained in Section III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed dangerous wastes that possess that characteristic or toxic contaminant.

Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: DANGEROUS WASTES DESCRIBED BY MORE THAN ONE DANGEROUS WASTE NUMBER - Dangerous wastes that can be described by more than one Waste Number shall be described on the form as follows:

- Select one of the Dangerous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
- In column A of the next line enter the other Dangerous Waste Number that can be used to describe the waste. In column D(2) on that line enter "Included with above" and make no other entries on that line.
- Repeat step 2 for each other Dangerous Waste Number that can be used to describe the dangerous waste.

EXAMPLE FOR COMPLETING SECTION IV (shown in line numbers X-1, X-2, X-3, and X-4 below) - A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. DANGEROUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES				
				1. PROCESS CODES (enter)				2. PROCESS DESCRIPTION (if a code is not entered in D(1))
X-1	K054	900	P	T03	D80			
X-2	D002	400	P	T03	D80			
X-3	D001	100	P	T03	D80			
X-4	D002			T03	D80			included with above
1	D002	45,359,237	K	T04	T02	S02	T01	Treatment - Other Solidification/Treatment - Surface Impoundment/Storage - Tank/Treatment - Tank
2	D006		↓	↓	↓	↓	↓	↓
3	D007		↓	↓	↓	↓	↓	↓
4	D008		↓	↓	↓	↓	↓	↓
5	D011		↓	↓	↓	↓	↓	↓
6	D029		↓	↓	↓	↓	↓	↓
7	D036		↓	↓	↓	↓	↓	↓
8	D040		↓	↓	↓	↓	↓	↓
9	F001		↓	↓	↓	↓	↓	↓

VIII. FACILITY OWNER			
<input checked="" type="checkbox"/> A. If the facility owner is also the facility operator as listed in Section VII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.			
<input type="checkbox"/> B. If the facility owner is not the facility operator as listed in Section VII on Form 1, complete the following items:			
1. NAME OF FACILITY'S LEGAL OWNER			2. PHONE NO. (area code & no.)
3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
IX. OWNER CERTIFICATION			
<i>I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.</i>			
NAME (print or type)	SIGNATURE	DATE SIGNED	
Keith A. Klein, Manager U.S. Department of Energy	L. L. Piper for	12/21/1999	
X. OPERATOR CERTIFICATION			
<i>I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.</i>			
NAME (print or type)	SIGNATURE	DATE SIGNED	
SEE ATTACHMENT			

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

L. L. Piper for
Owner/Operator
Keith A. Klein, Manager
U.S. Department of Energy

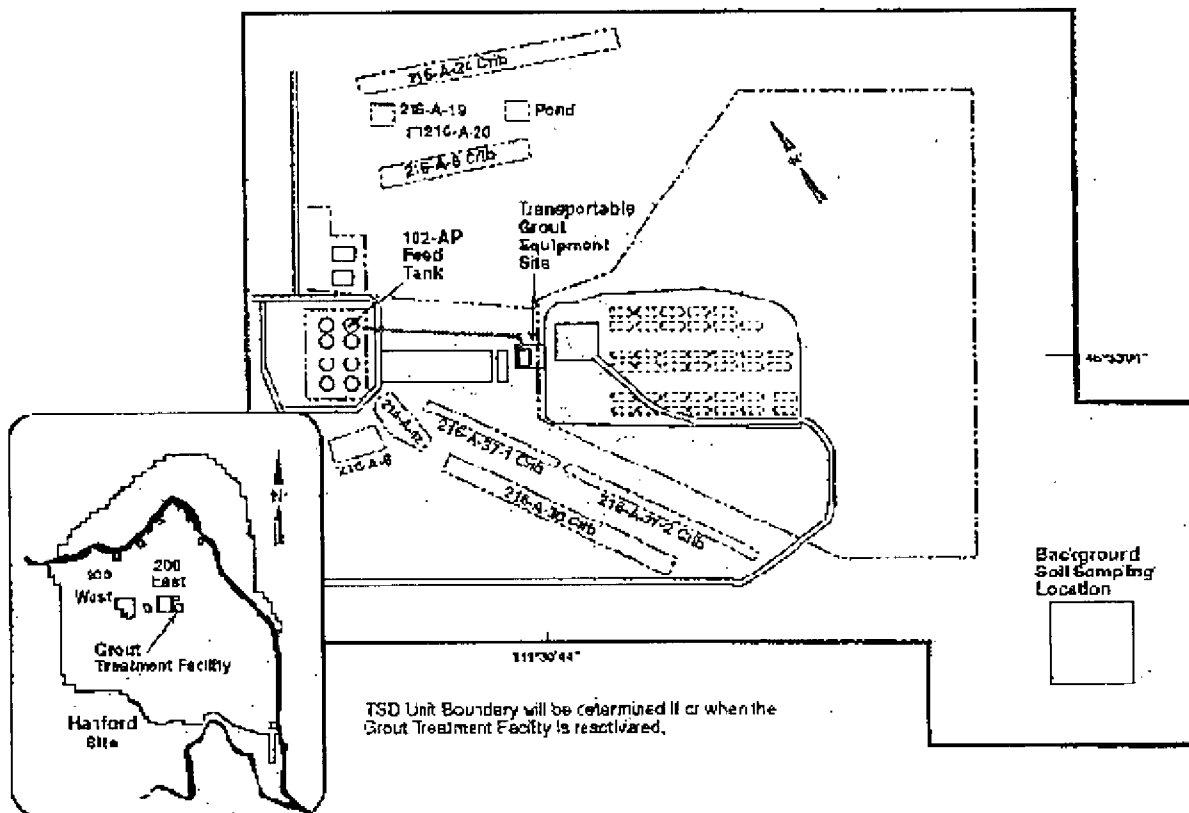
12/21/99
Date

M. P. DeLozier
Co-Operator
M. P. DeLozier
President and RPP General Manager
CH2M HILL Hanford Group, Inc.*

12/22/99
Date

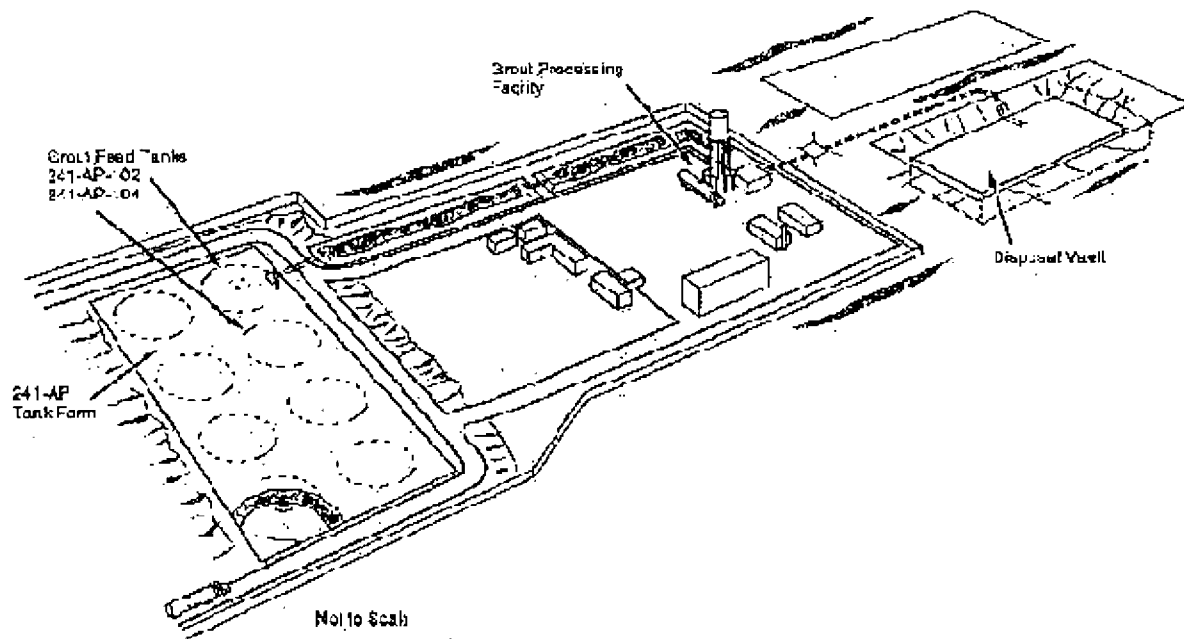
*Co-operator under Department of Energy Office of River Protection Contract #DE-AC06-99L14047.

Grout Treatment Facility Site Plan



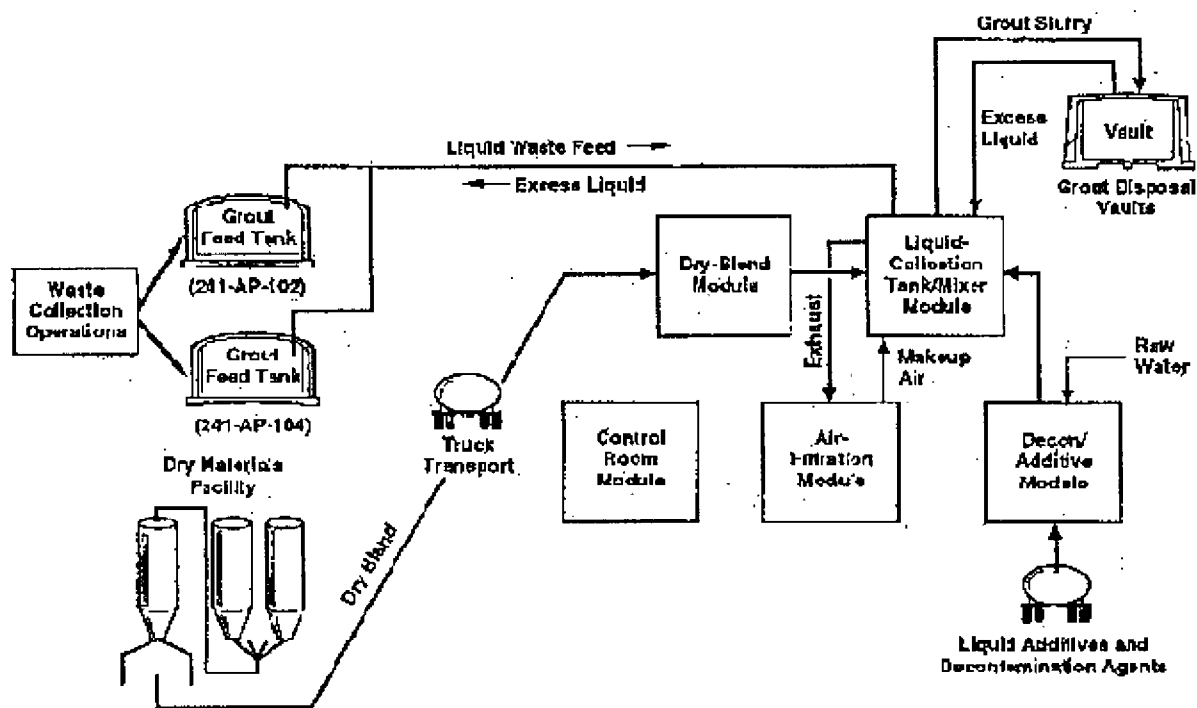
H96070161.9

Grout Treatment Facility Layout



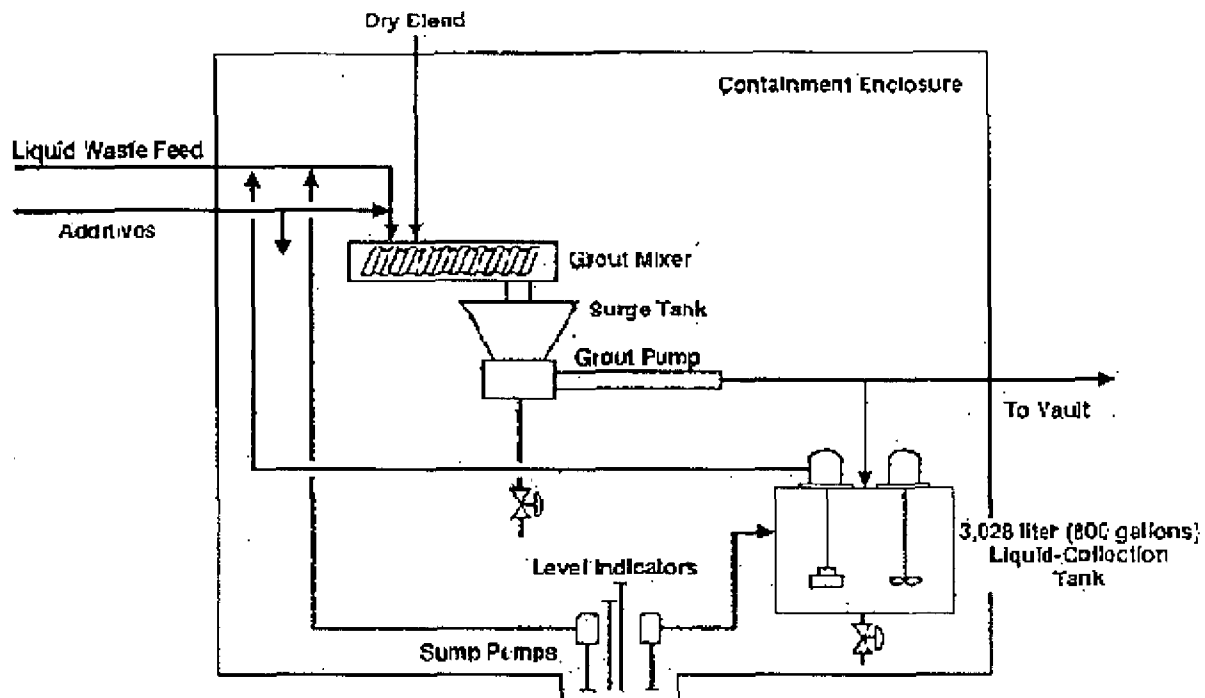
39202084.3

Grout Treatment Facility Material Flow Diagram



39202084.6

Grout Treatment Facility Liquid-Collection Tank/Mixer Module

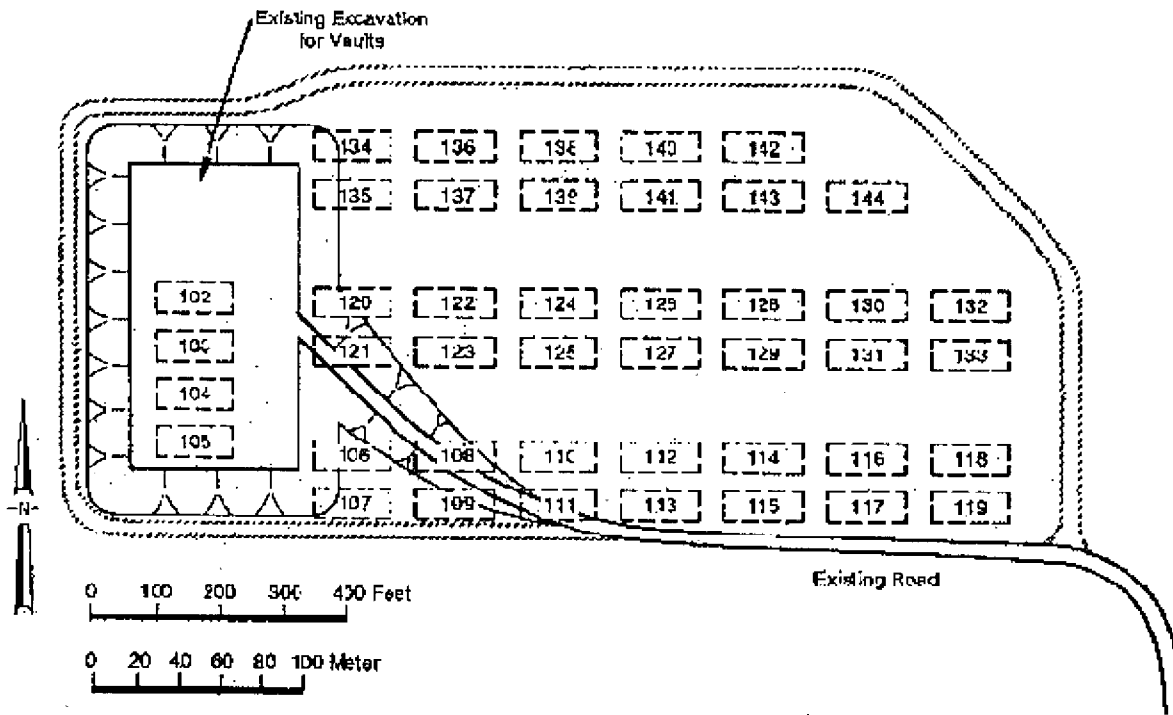


diaphragm operated valve

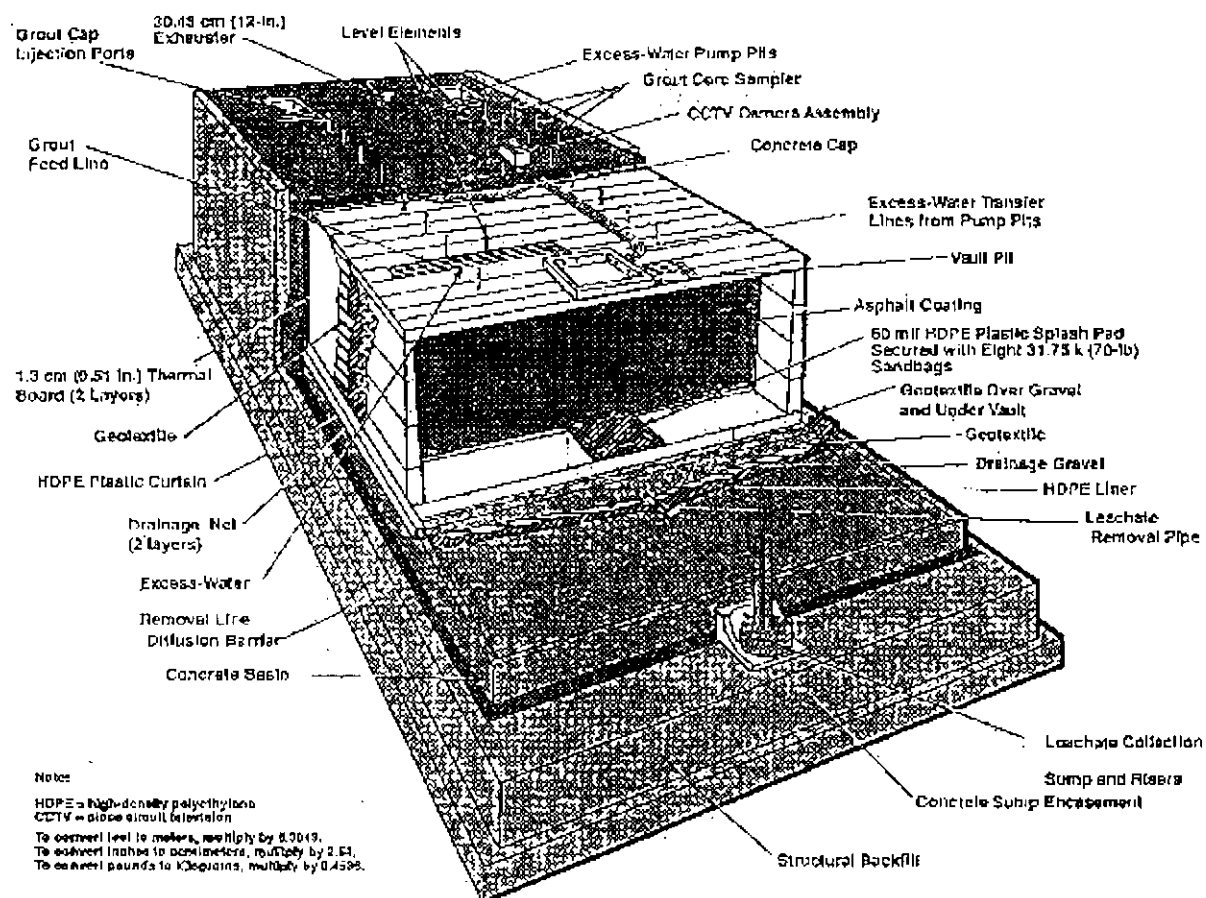
Note: To convert feet to meters, multiply by 0.3048.
To convert inches to centimeters, multiply by 2.54.

39202084.5

Grout Treatment Facility Vault Arrangement

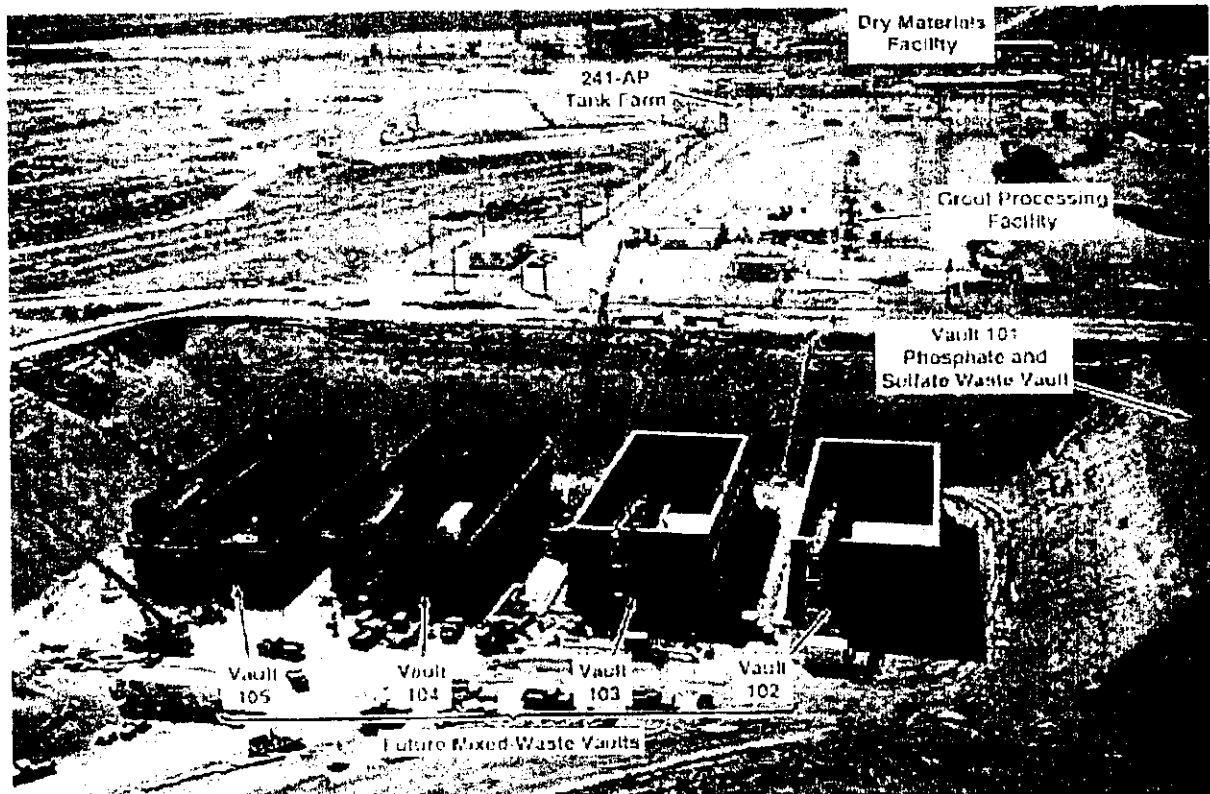


39202084.4



39202084.1

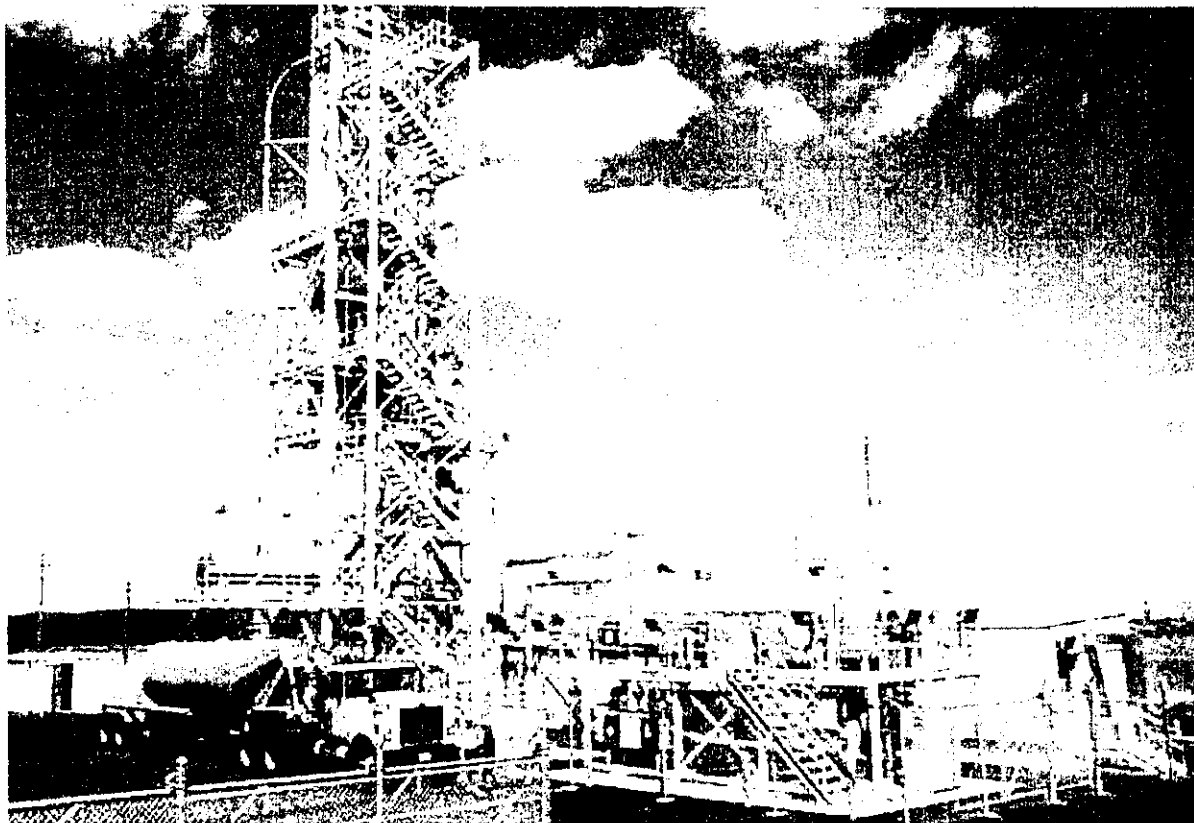
GROUT TREATMENT FACILITY AERIAL VIEW



46°33'04"
119°30'44"

39202084.2
(PHOTO TAKEN 1991)

GROUT TREATMENT FACILITY



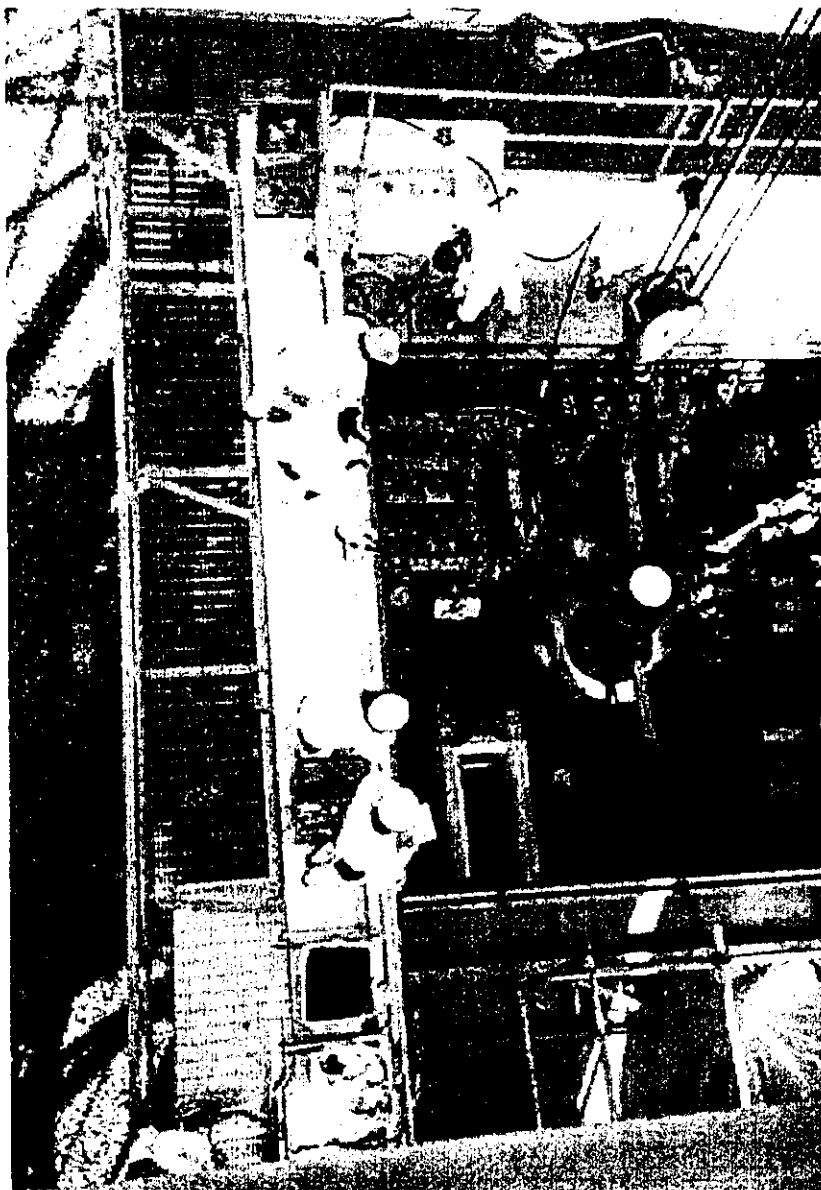
GROUT PROCESSING FACILITY

46°33'04"

119°30'44"

8802516-9CH
(PHOTO TAKEN 1988)

GROUT TREATMENT FACILITY



LIQUID COLLECTION TANK

46°33'04"

119°30'44"

8800284-1CN
(PHOTO TAKEN 1988)

DOE/RL-88-21
204-AR Waste Unloading Station
Rev. 6, 12/21/99

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FOR OFFICIAL USE ONLY					
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III. PROCESS - CODES AND CAPACITIES					
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PROCESS	PRO- CESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY	PROCESS	PRO- CESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:			Treatment:		
CONTAINER (barrel, drum, etc.)	S01	GALLONS OR LITERS	TANK	T01	GALLONS PER DAY OR LITERS PER DAY
TANK	S02	GALLONS OR LITERS	SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS	INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS	OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided: Section III-C.)	T04	GALLONS PER DAY OR LITERS PER DAY
Disposal:					
INJECTION WELL	D80	GALLONS OR LITERS			
LANDFILL	D81	ACRE-FEET (the volume that would cover one acre to a depth of one foot) OR HECTARE-METER			
LAND APPLICATION	D82	ACRES OR HECTARES			
OCEAN DISPOSAL	D83	GALLONS PER DAY OR LITERS PER DAY			
SURFACE IMPOUNDMENT	D84	GALLONS OR LITERS			
UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G	LITERS PER DAY	V	ACRE-FEET	A
LITERS	L	TONS PER HOUR	D	HECTARE-METER	F
CUBIC YARDS	Y	METRIC TONS PER HOUR	W	ACRES	B
CUBIC METERS	C	GALLONS PER HOUR	E	HECTARES	Q
GALLONS PER DAY	U	LITERS PER HOUR	H		

EXAMPLE FOR COMPLETING SECTION III (shown in line numbers X-1 and X-2 below): A facility has two storage tanks; one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.						
LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY		FOR OFFICIAL USE ONLY		
		1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)			
X-1	S02	600	G			
X-2	T03	20	E			
1	T04	189,270	V			
2						
3						
4						
5						
6						
7						
8						
9						
10						

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESS (CODE "T04"). FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

T04
The 204-AR Waste unloading Station began waste management operations in February of 1982. The 204-AR Waste Unloading Station receives liquid mixed waste transported in railroad tank cars or tank trucks of varying capacity. Mixed waste is generated from decontamination and regeneration operations in the 100 and 200 Areas, from recovery and laboratory operations in the 200 and 300 Areas, and from decontamination operations in the 400 Area. The liquid mixed waste is chemically adjusted in-line during pumpout to meet Double-Shell Tank (DST) System corrosion specifications, then transferred to the DST System. The maximum process design capacity, with a specific gravity for the waste of 1.0, for tank treatment at the 204-AR Waste Unloading Station is 189,270 liters (50,000 gallons) of which 37,854 liters (10,000 gallons) is associated with the flushing of the system.

IV. DESCRIPTION OF DANGEROUS WASTES

A. DANGEROUS WASTE NUMBER - Enter the four digit number from Chapter 173-303 WAC for each listed dangerous waste you will handle. If you handle dangerous wastes which are not listed in Chapter 173-303 WAC, enter the four digit number(s) that describe the characteristics and/or the toxic contaminants of those dangerous wastes.

B. ESTIMATED ANNUAL QUANTITY - For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE - For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE CODE	METRIC UNIT OF MEASURE CODE
POUNDS P	KILOGRAMS K
TONS T	METRIC TONS M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES**1. PROCESS CODES:**

For listed dangerous waste: For each listed dangerous waste entered in column A select the code(s) from the list of process codes contained in Section III to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non-listed dangerous wastes: For each characteristic or toxic contaminant entered in Column A, select the code(s) from the list of process codes contained in Section III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed dangerous wastes that possess that characteristic or toxic contaminant.

Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: DANGEROUS WASTES DESCRIBED BY MORE THAN ONE DANGEROUS WASTE NUMBER - Dangerous wastes that can be described by more than one Waste Number shall be described on the form as follows:

- Select one of the Dangerous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
- In column A of the next line enter the other Dangerous Waste Number that can be used to describe the waste. In column D(2) on that line enter "Included with above" and make no other entries on that line.
- Repeat step 2 for each other Dangerous Waste Number that can be used to describe the dangerous waste.

EXAMPLE FOR COMPLETING SECTION IV (shown in line numbers X-1, X-2, X-3, and X-4 below) - A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. DANGEROUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES			
				1. PROCESS CODES (enter)			
X-1	K054	900	P	T03	D80		
X-2	D002	400	P	T03	D80		
X-3	D001	100	P	T03	D80		
X-4	D002			T03	D80		included with above
1	D001	7,076,040	K	T04			Treatment-Other/Chemical Treatment
2	D002		↓	↓			↓
3	D003		↓	↓			↓
4	D004		↓	↓			↓
5	D005		↓	↓			↓
6	D006		↓	↓			↓
7	D007		↓	↓			↓
8	D008		↓	↓			↓
9	D009		↓	↓			↓
10	D010		↓	↓			↓

Included With above

The 204-AR Waste Unloading Station is used for the treatment of liquid mixed waste that exhibits a pH of less than 12. The waste is treated in-line at the 204-AR Waste Unloading Station by adding caustic (sodium hydroxide and sodium nitrate) to increase the pH of the waste, making the waste amenable for storage in the DST System.

The waste identified in Section IV.A has the potential for being transported to the 204-AR Waste Unloading Station, treated, and transferred to the DST System. The mixed waste consists of listed waste, characteristic waste (D001, D002, and D003), toxic constituents (D004 through D011, D018, D019, D022, D028 through D030, D033 through D036, D038 through D041, and D043), nonspecific source waste (F001 through F005 and F039), and state-only waste (WT01, WT02, WP01, and WP02). Multi-source leachate (F039) is included as a waste derived from nonspecific source wastes F001 through F005.

All existing facilities must include in the space provided on page 5 a scale drawing of the facility (see instructions for more detail).

All existing facilities must include photographs (*aerial or ground-level*) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (*see instructions for more detail*).

LATITUDE (degrees, minutes, & seconds)

LONGITUDE (degrees, minutes, & seconds)

VIII. FACILITY OWNER			
<input checked="" type="checkbox"/> A. If the facility owner is also the facility operator as listed in Section VII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.			
<input type="checkbox"/> B. If the facility owner is not the facility operator as listed in Section VII on Form 1, complete the following items:			
1. NAME OF FACILITY'S LEGAL OWNER			2. PHONE NO. (area code & no.)
3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
IX. OWNER CERTIFICATION			
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.			
NAME (print or type)	SIGNATURE	DATE SIGNED	
Keith A. Klien, Manager U. S. Department of Energy	L. L. Piper for	12/21/1999	
X. OPERATOR CERTIFICATION			
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.			
NAME (print or type)	SIGNATURE	DATE SIGNED	
SEE ATTACHMENT			

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

L. L. Piper for
Owner/Operator
Keith A. Klein, Manager
U.S. Department of Energy

12/21/99
Date

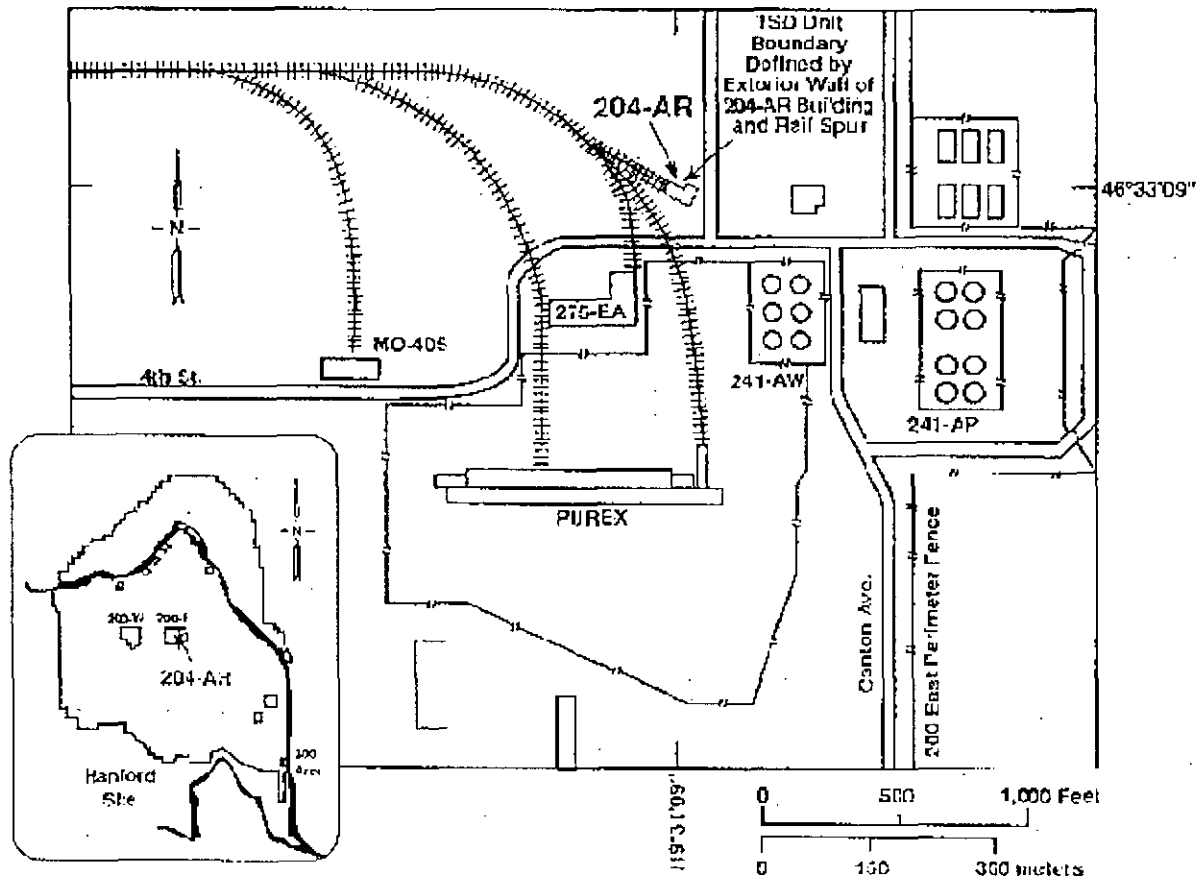
M. P. DeLozier
Co-Operator
M. P. DeLozier
President and RPP General Manager
CH2M HILL Hanford Group, Inc.*

12/22/99
Date

*Co-operator under Department of Energy Office of River Protection Contract #DE-AC06-99L14047.

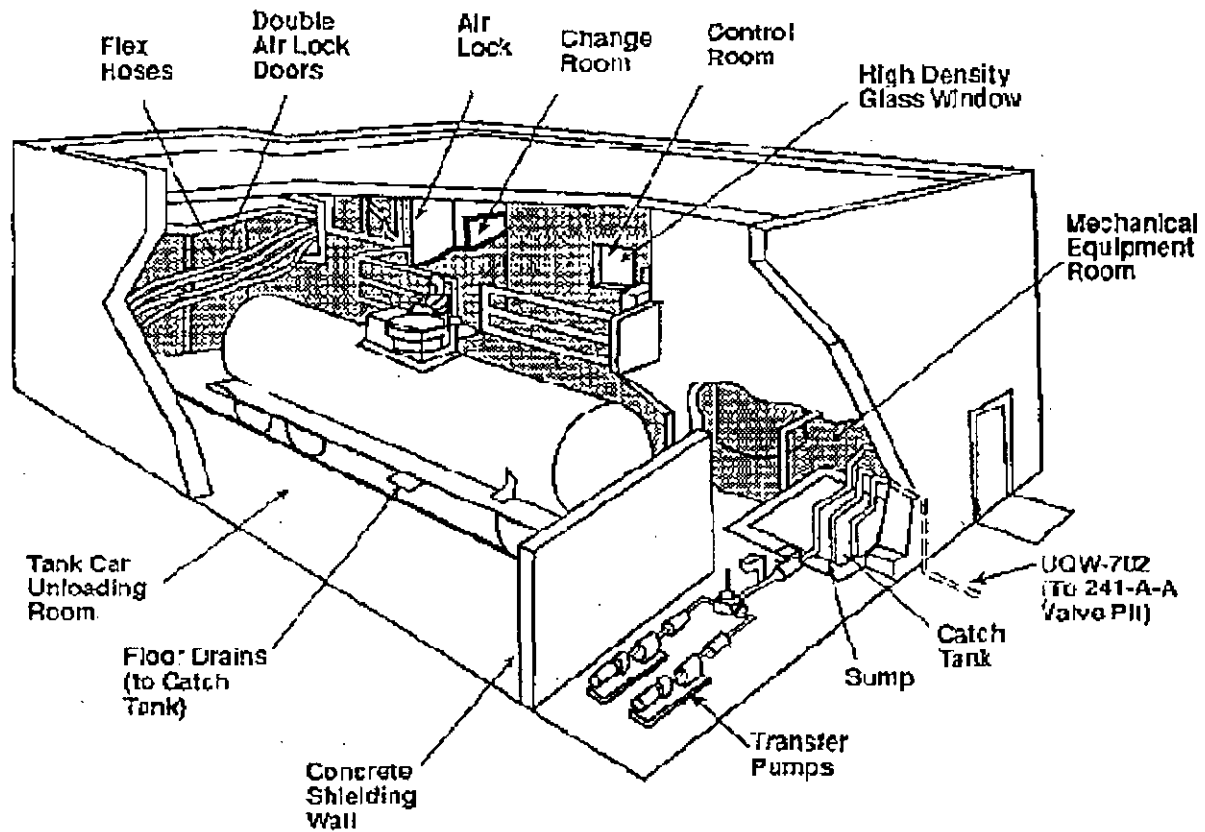
204-AR Building Waste Unloading Station

Site Plan



H9408030.15

204-AR Waste Unloading Station Cutaway View



H96070161.25

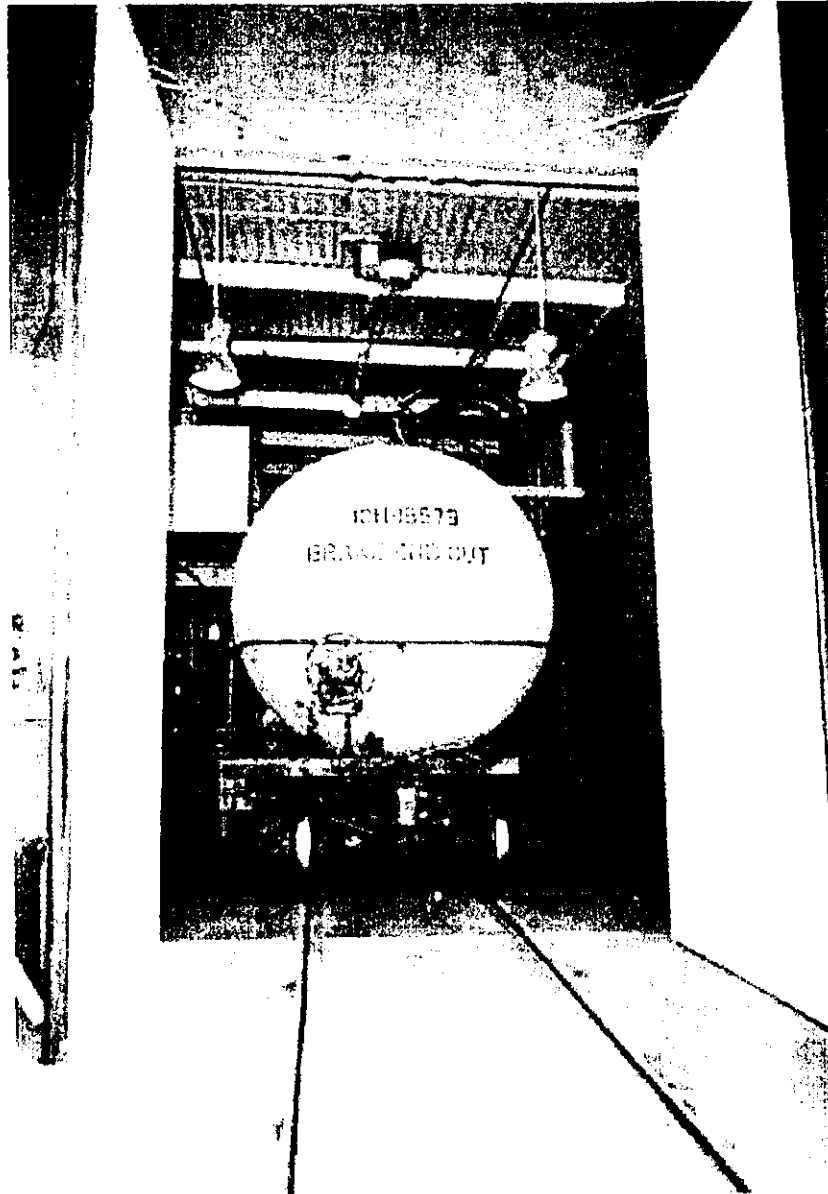
204-AR WASTE UNLOADING STATION



46°33'09"
119°31'09"

8706421-18CN
(PHOTO TAKEN 1987)

204-AR WASTE UNLOADING STATION INTERNAL VIEW



TYPICAL RAILROAD TANK CAR UNLOADING

46°33'09"
119°31'09"

8706421-16CN
(PHOTO TAKEN 1987)

DOE/RL-88-21
Hanford Waste Vitrification Plant
Rev. 6, 9/30/99

Please print or type in the unshaded areas only
(fill-in areas are spaced for elite type, i.e. 12 character/inch).

FORM 3	DANGEROUS WASTE PERMIT APPLICATION	1. EPA/STATE I.D. NUMBER WA7890008967			
FOR OFFICIAL USE ONLY					
APPLICATION APPROVED	DATE RECEIVED (mo., day, & yr.)	COMMENTS			
II. FIRST OR REVISED APPLICATION					
Place an "X" in the appropriate box in A or B below (mark one box only) to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA/STATE I.D. Number, or if this is a revised application, enter your facility's EPA/STATE I.D. Number in Section I above.					
<div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <p>A. FIRST APPLICATION (place an "X" below and provide the appropriate date)</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <p><input type="checkbox"/> 1. EXISTING FACILITY (See instructions for definition of "existing" facility. Complete item below.)</p> <p>FOR EXISTING FACILITIES, PROVIDE THE DATE (mo., day, & yr.) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED (use the boxes to the left)</p> <p><i>*The date construction of the Hanford Facility commenced.</i></p> </div> <div style="width: 48%;"> <p><input type="checkbox"/> 2. NEW FACILITY (Complete item below)</p> <p>FOR NEW FACILITIES, PROVIDE THE DATE, (mo., day, & yr.) OPERATION BEGAN OR IS EXPECTED TO BEGIN</p> </div> </div> </div> <div style="width: 48%;"> <p><input checked="" type="checkbox"/> 1. FACILITY HAS AN INTERIM STATUS PERMIT</p> <p><input checked="" type="checkbox"/> 2. FACILITY HAS A FINAL PERMIT</p> </div> </div>					
III. PROCESS - CODES AND CAPACITIES					
<p>A. PROCESS CODE - Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process (including its design capacity) in the space provided on the (Section III-C).</p> <p>B. PROCESS DESIGN CAPACITY - For each code entered in column A enter the capacity of the process.</p> <p>1. AMOUNT - Enter the amount.</p> <p>2. UNIT OF MEASURE - For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.</p>					
PROCESS	PRO- CESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY	PROCESS	PRO- CESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:			Treatment:		
CONTAINER (barrel, drum, etc.)	S01	GALLONS OR LITERS	TANK	T01	GALLONS PER DAY OR LITERS PER DAY
TANK	S02	GALLONS OR LITERS	SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS	INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS	OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided: Section III-C.)	T04	GALLONS PER DAY OR LITERS PER DAY
Disposal:					
INJECTION WELL	D80	GALLONS OR LITERS			
LANDFILL	D81	ACRE-FEET (the volume that would cover one acre to a depth of one foot) OR HECTARE-METER			
LAND APPLICATION	D82	ACRES OR HECTARES			
OCEAN DISPOSAL	D83	GALLONS PER DAY OR LITERS PER DAY			
SURFACE IMPOUNDMENT	D84	GALLONS OR LITERS			
UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE CODE
GALLONS	G	LITERS PER DAY	ACRE-FEET	A	
LITERS	L	TONS PER HOUR	HECTARE-METER	F	
CUBIC YARDS	Y	METRIC TONS PER HOUR	ACRES	B	
CUBIC METERS	C	GALLONS PER HOUR	HECTARES	Q	
GALLONS PER DAY	U	LITERS PER HOUR			

EXAMPLE FOR COMPLETING SECTION III (shown in line numbers X-1 and X-2 below): A facility has two storage tanks; one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY		FOR OFFICIAL USE ONLY
		1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)	
X-1	S02	600	G	
X-2	T03	20	E	
1	T01	33,038	V	
2	T04	250**	H	
3	S02	416,350	L	
4	S99	2,271**	L	
** Process codes T04 and S99 are being used to designate the Hanford Waste Vitrification Plant Melter as a "miscellaneous unit" per Washington Administrative Code 173-303-680 "Miscellaneous Units".				
5	T01	66,616	V	
6	S02	696,440	L	
7	T01	417	V	
8	S02	431,490	L	
9				
10				

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESS (CODE "T04"). FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

T01, T04, S02, S99 (Vitrification and Related Treatment and Storage Processes)

The Hanford Waste Vitrification Plant (HWVP) is proposed to be located in the 200 East Area of the Hanford Facility¹. At the HWVP, mixed waste received from a pretreatment unit will be treated in a series of tanks. Treatment will include concentration by evaporation, adjustment with chemicals and glass forming materials, and immobilization in borosilicate glass (vitrification) (T01, T04)². The vitrified waste will be cast into stainless steel canisters and stored at the HWVP until the canisters are shipped to a national repository. The HWVP Melter is designed to process 250 liters per hour of melter feed, producing 100 kilograms per hour of borosilicate glass. The associated HWVP treatment tanks will be designed to process 33,308 liters per day of mixed waste. The dangerous waste treatment tanks will be capable of storing dangerous waste (S02) under offnormal conditions. The HWVP Melter also will be capable of storing dangerous waste (S99)² under offnormal conditions. The total storage capacity of the tanks included in the vitrification process is 416,350 liters. The storage capacity of the HWVP Melter is 2,271 liters.

T01, S02, (Tank Treatment and Storage of Secondary Mixed Waste)

Secondary liquid mixed waste generated by the HWVP will be collected and treated (T01) in a series of tanks. Treatment will include neutralization, filtration, sorption, and evaporation. The high-activity fraction from the treatment process will be recycled. The remainder of the waste will be transferred to the Double-Shell Tank (DST) System. Treatment design capacity will be 66,616 liters per day of mixed waste. The dangerous waste treatment tanks also will be capable of storing dangerous waste (S02) under offnormal conditions. The total storage capacity of tanks handling secondary liquid mixed waste is 696,440 liters.

T01, S02 (Neutralization, Solar Evaporation, and Tank Storage of Secondary Nonradioactive Dangerous Waste)

Secondary nonradioactive dangerous waste generated from leaks, spills, and/or overflows from chemical storage, makeup, and feed tanks will be collected, treated in a series of tanks (T01), and stored (S02) at the HWVP. Treatment will include neutralization, concentration by solar evaporation, and decomposition of dangerous constituents during storage. Treatment design capacity is 417 liters per day with a storage design capacity of 431,490 liters.

1. Per Amendment Four of the Hanford Federal Facility Consent and Order (Tri-Party Agreement), construction of a high-level waste vitrification plant, such as the HWVP, was delayed until the year 2002 to accommodate changes in waste management planning and prioritization. Hot startup of a high-level vitrification plant has been delayed until the year 2009 (Tri-Party Agreement Milestone M-51-03).
2. The HWVP Melter, to be used for treatment (vitrification) (T04) and storage (S05) of dangerous waste, will be considered a "miscellaneous unit" per Washington Administrative Code (WAC) 173-303-680 "Miscellaneous Units."

IV. DESCRIPTION OF DANGEROUS WASTES

A. DANGEROUS WASTE NUMBER - Enter the four digit number from Chapter 173-303 WAC for each listed dangerous waste you will handle. If you handle dangerous wastes which are not listed in Chapter 173-303 WAC, enter the four digit number(s) that describe the characteristics and/or the toxic contaminants of those dangerous wastes.

B. ESTIMATED ANNUAL QUANTITY - For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE - For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES**1. PROCESS CODES:**

For listed dangerous waste: For each listed dangerous waste entered in column A select the code(s) from the list of process codes contained in Section III to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non-listed dangerous wastes: For each characteristic or toxic contaminant entered in Column A, select the code(s) from the list of process codes contained in Section III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed dangerous wastes that possess that characteristic or toxic contaminant.

Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: DANGEROUS WASTES DESCRIBED BY MORE THAN ONE DANGEROUS WASTE NUMBER - Dangerous wastes that can be described by more than one Waste Number shall be described on the form as follows:

- Select one of the Dangerous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
- In column A of the next line enter the other Dangerous Waste Number that can be used to describe the waste. In column D(2) on that line enter "Included with above" and make no other entries on that line.
- Repeat step 2 for each other Dangerous Waste Number that can be used to describe the dangerous waste.

EXAMPLE FOR COMPLETING SECTION IV (shown in line numbers X-1, X-2, X-3, and X-4 below) - A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. DANGEROUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES				
				1. PROCESS CODES (enter)			2. PROCESS DESCRIPTION (if a code is not entered in D(1))	
X-1	K054	900	P	T03	D80			
X-2	D002	400	P	T03	D80			
X-3	D001	100	P	T03	D80			
X-4	D002			T03	D80			included with above
1	D001	12,439,660	K	T01	T04	S02	S99	Treatment-Tank/ Treatment -Other, Miscellaneous Unit, Storage-Tank/Storage-Other, Miscellaneous Unit
2	D002		↓	↓	↓	↓	↓	↓
3	D003		↓	↓	↓	↓	↓	↓
4	D004		↓	↓	↓	↓	↓	↓
5	D005		↓	↓	↓	↓	↓	↓
6	D006		↓	↓	↓	↓	↓	↓
7	D007		↓	↓	↓	↓	↓	↓
8	D008		↓	↓	↓	↓	↓	↓
9	D009		↓	↓	↓	↓	↓	↓

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM SECTION D(1) ON PAGE 3.

The mixed waste that will be treated and stored in stainless steel canisters at the HWVP will consist of existing and future high-activity waste stored in the DST System. The mixed waste will be designated as a dangerous waste due to ignitability (D001), corrosivity (D002), reactivity (D003), and the presence of spent nonhalogenated solvents (F003 and F005). The mixed waste also will be designated state-only extremely hazardous waste and/or dangerous waste for toxicity (WT01) and persistent (WP01, WP02).

The secondary liquid mixed waste is expected to be designated dangerous waste due to corrosivity (D002), and to the presence of spent nonhalogenated solvents (F003 and F005). The secondary liquid mixed waste also will be designated state-only waste for persistent (WP01, WP02) and toxicity (WT01, WT02). Treatment is expected to eliminate the extremely hazardous waste designation of the secondary liquid mixed waste before the mixed waste is transferred out of this unit.

The secondary nonradioactive chemical waste that will be treated and stored at the HWVP is expected to be designated dangerous waste due to corrosivity (D002) and state-only waste for toxicity (WT01, WT02). Treatment is expected to eliminate the extremely hazardous waste characteristics designation before treatment and storage in a solar evaporation tank.

When the HWVP Project is underway, a Part A, Form 3, permit application revision could be pursued as required by the dangerous waste regulations to change the dangerous waste number(s) and revise the estimated annual quantity of waste.

All existing facilities must include in the space provided on page 5 a scale drawing of the facility (see instructions for more detail).

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

LATITUDE (<i>degrees, minutes, & seconds</i>)						LONGITUDE (<i>degrees, minutes, & seconds</i>)					

VIII. FACILITY OWNER			
<input checked="" type="checkbox"/> A. If the facility owner is also the facility operator as listed in Section VII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.			
<input type="checkbox"/> B. If the facility owner is not the facility operator as listed in Section VII on Form 1, complete the following items:			
1. NAME OF FACILITY'S LEGAL OWNER			2. PHONE NO. (area code & no.)
3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
IX. OWNER CERTIFICATION			
<i>I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.</i>			
NAME (print or type)	SIGNATURE	DATE SIGNED	
Keith A. Klein, Manager U. S. Department of Energy Richland Operations Office	Robert M. Rosselli for	09/30/1999	
X. OPERATOR CERTIFICATION			
<i>I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.</i>			
NAME (print or type)	SIGNATURE	DATE SIGNED	
SEE ATTACHMENT			

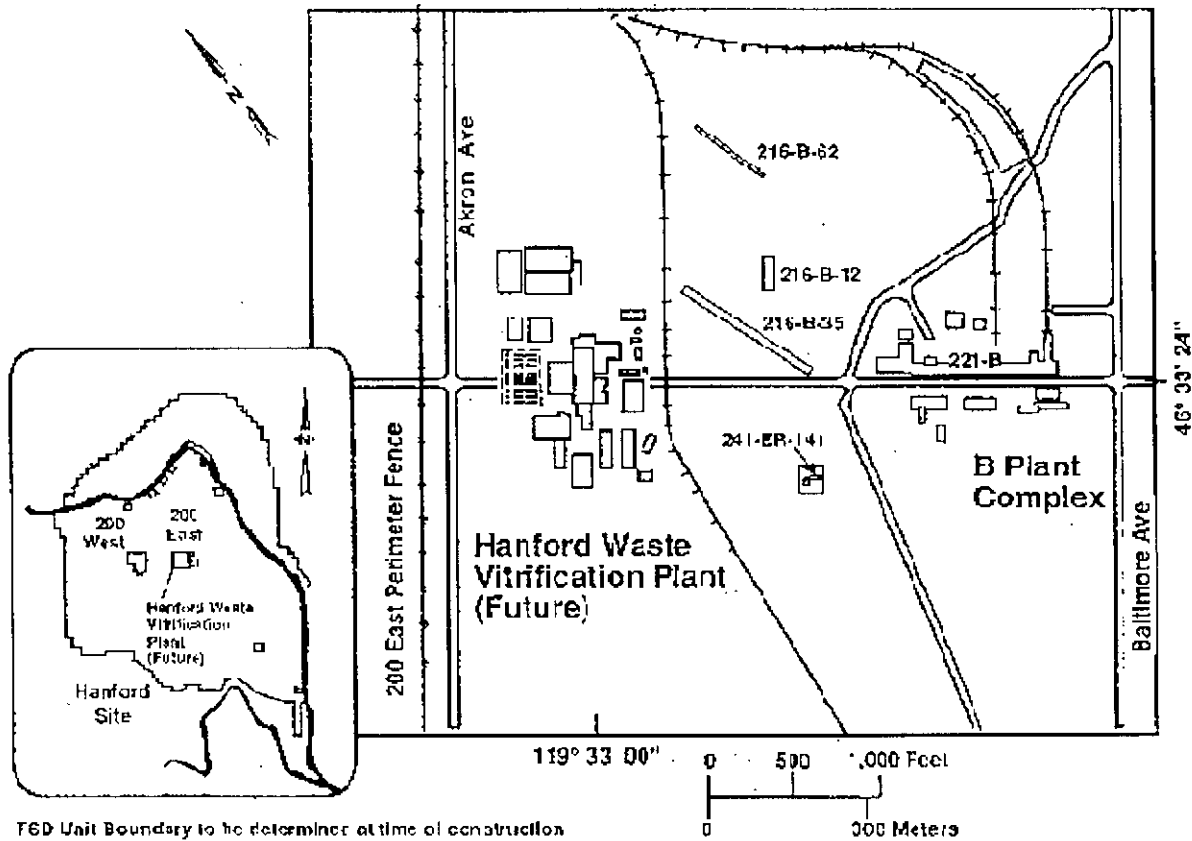
X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Robert M. Rosselli for _____
Owner/Operator
Keith A. Klein, Manager
U.S. Department of Energy
Richland Operations Office

9/30/99 _____
Date

Hanford Waste Vitrification Plant Future Site Plan



H96070161.2

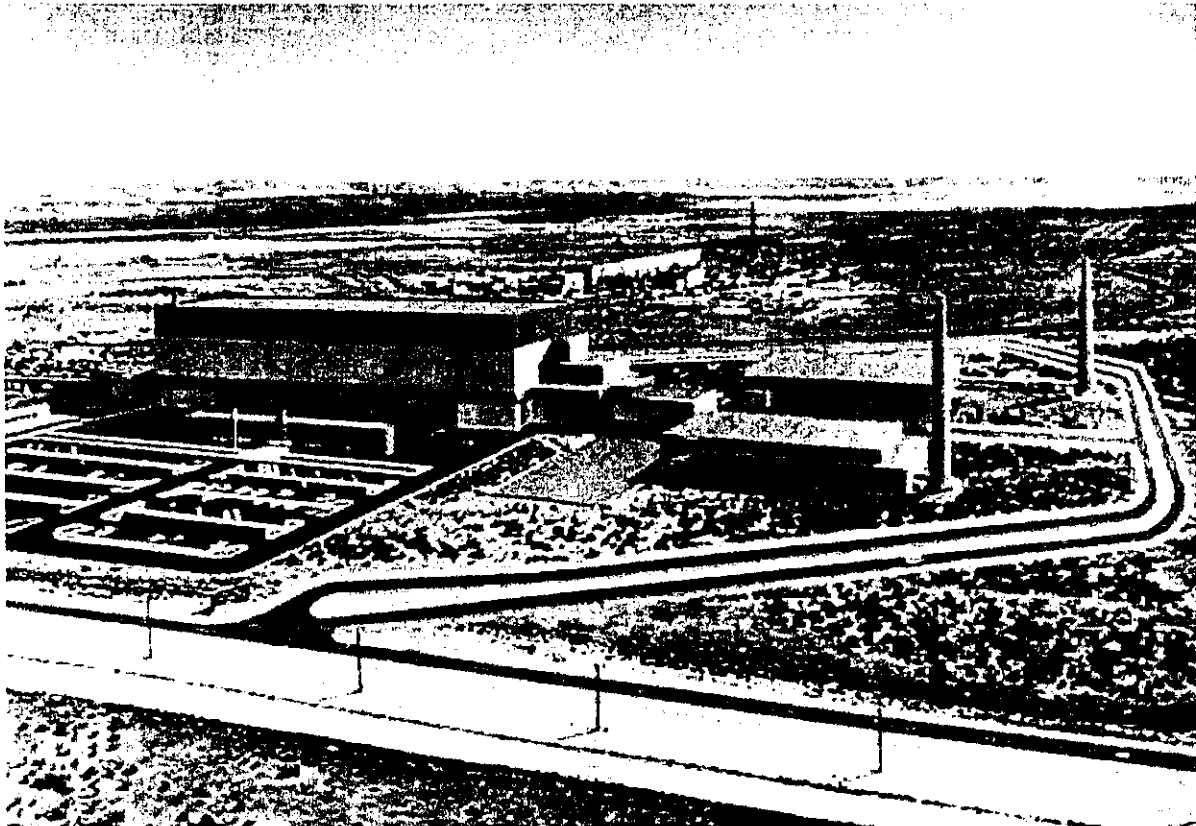
HANFORD WASTE VITRIFICATION PLANT PROPOSED LOCATION--AERIAL VIEW



46°33'12"
119°33'00"

8600906-13CN
(PHOTO TAKEN 1986)

HANFORD WASTE VITRIFICATION PLANT FUTURE CONCEPTUAL LAYOUT



46°33'12"
119°33'00"

90112857-1CN
(PHOTO TAKEN 1990)

HANFORD FACILITY DANGEROUS WASTE PART A PERMIT APPLICATION

Revision

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HANFORD FACILITY DANGEROUS WASTE PART A PERMIT APPLICATION

Revision

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HANFORD FACILITY DANGEROUS WASTE PART A PERMIT APPLICATION

	Revision
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DOE/RL-88-21
Double-Shell Tank System
Rev. 10, 12/21/99

Please print or type in the unshaded areas only
(fill-in areas are spaced for elite type, i.e. 12 character/inch).

FORM 3	DANGEROUS WASTE PERMIT APPLICATION	I. EPA/STATE I.D. NUMBER WA7890008967
FOR OFFICIAL USE ONLY		
APPLICATION APPROVED	DATE RECEIVED (mo., day, & yr.)	COMMENTS
II. FIRST OR REVISED APPLICATION		
Place an "X" in the appropriate box in A or B below (mark one box only) to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA/STATE I.D. Number, or if this is a revised application, enter your facility's EPA/STATE I.D. Number in Section I above.		
<div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <p>A. FIRST APPLICATION (place an "X" below and provide the appropriate date)</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <input type="checkbox"/> 1. EXISTING FACILITY <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <div style="border: 1px solid black; padding: 2px;">MO.</div> <div style="border: 1px solid black; padding: 2px;">DAY</div> <div style="border: 1px solid black; padding: 2px;">YEAR</div> </div> <div style="display: flex; justify-content: space-around; margin-top: 2px;"> <div style="border: 1px solid black; padding: 2px;">03</div> <div style="border: 1px solid black; padding: 2px;">22</div> <div style="border: 1px solid black; padding: 2px;">1943</div> </div> </div> <div style="width: 48%;"> <input type="checkbox"/> 2. NEW FACILITY (Complete item below) <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <div style="border: 1px solid black; padding: 2px;">MO.</div> <div style="border: 1px solid black; padding: 2px;">DAY</div> <div style="border: 1px solid black; padding: 2px;">YEAR</div> </div> </div> </div> <p style="font-size: small;">(See instructions for definition of "existing" facility. Complete item below.) *FOR EXISTING FACILITIES, PROVIDE THE DATE (mo., day, & yr.) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED (use the boxes to the left) <i>*The date construction of the Hanford Facility commenced.</i></p> </div> <div style="width: 48%;"> <p>FOR NEW FACILITIES, PROVIDE THE DATE, (mo., day, & yr.) OPERATION BEGAN OR IS EXPECTED TO BEGIN</p> </div> </div>		
<p>B. REVISED APPLICATION (place an "X" below and complete Section I above)</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <input checked="" type="checkbox"/> 1. FACILITY HAS AN INTERIM STATUS PERMIT </div> <div style="width: 48%;"> <input checked="" type="checkbox"/> 2. FACILITY HAS A FINAL PERMIT </div> </div>		
III. PROCESS - CODES AND CAPACITIES		
<p>A. PROCESS CODE - Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process (including its design capacity) in the space provided on the (Section III-C).</p> <p>B. PROCESS DESIGN CAPACITY - For each code entered in column A enter the capacity of the process.</p> <p>1. AMOUNT - Enter the amount.</p> <p>2. UNIT OF MEASURE - For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.</p>		
PROCESS	PRO- CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER (barrel, drum, etc.)	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D80	GALLONS OR LITERS
LANDFILL	D81	ACRE-FEET (the volume that would cover one acre to a depth of one foot) OR HECTARE-METER
LAND APPLICATION	D82	ACRES OR HECTARES
OCEAN DISPOSAL	D83	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D84	GALLONS OR LITERS
PROCESS		PRO- CODE
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided: Section III-C.)	T04	GALLONS PER DAY OR LITERS PER DAY
UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE
GALLONS	G	LITERS PER DAY
LITERS	L	TONS PER HOUR
CUBIC YARDS	Y	METRIC TONS PER HOUR
CUBIC METERS	C	GALLONS PER HOUR
GALLONS PER DAY	U	LITERS PER HOUR
UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE
ACRE-FEET	A	HECTARE-METER
HECTARE-METER	F	ACRES
ACRES	B	HECTARES
HECTARES	Q	

EXAMPLE FOR COMPLETING SECTION III (shown in line numbers X-1 and X-2 below): A facility has two storage tanks; one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.					
LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY		FOR OFFICIAL USE ONLY	
		1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)		
X-1	S02	600	G		
X-2	T03	20	E		
1	S02	124,654,500	L		
2	T01	124,654,500	V		
3					
4					
5					
6					
7					
8					
9					
10					

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESS (CODE "T04"). FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

The Double-Shell Tank (DST) System began operations between November 1955 and October 1986 (refer to the Tank Table on pages 3 and 4). The DST System is used for the interim storage (S02) of liquid mixed waste generated on the Hanford Facility. Several operating units in the 200 East and 200 West Areas transfer liquid mixed waste through buried double-encased transfer lines to designated underground DSTs. Other types of liquid mixed waste in the DST System are received from railroad tank car transfers, tank truck transfers, the Single-Shell Tank (SST) System, and smaller temporary storage tanks.

Pretreatment will be performed as necessary at a future unit and/or at the 242-A Evaporator. The low-level liquid mixed waste is accumulated in the DST System until the waste is transferred for treatment to a proposed low-level vitrification plant in preparation for final disposal. The high-level liquid mixed waste from the DST System could be treated at the proposed Hanford Waste Vitrification Plant (HWVP) and shipped to a national repository for disposal. The HWVP could be superseded by another high-level waste immobilization facility.

The tanks in the DST System are considered treatment units (T01) because chemicals can be added for corrosion control, the waste can be mixed using equipment such as airlift circulators or pumps, and water can be evaporated from the aging waste tanks by adding heat.

The tanks in the DST System are shown on the Tank Table (pages 3 and 4), which includes tank numbers, locations, design capacities, and operational dates. The specific TSD unit boundaries will be defined in the DST System Dangerous Waste Part B permit application documentation.

The maximum process design capacity for tank storage at the DST System is approximately 124,654,500 liters (32,930,230 gallons). The maximum process design capacity for tank treatment at the DST System is approximately 124,654,500 liters (32,930,230 gallons).

Tank Table

1. There are twenty-four nonaging* DSTs.

Tank Number	Location	Design Capacity (liters)	Operation Date
241-AN-101	200 East Area	4,542,480	9/81
241-AN-102	200 East Area	4,542,480	9/81
241-AN-103	200 East Area	4,542,480	9/81
241-AN-104	200 East Area	4,542,480	9/81
241-AN-105	200 East Area	4,542,480	9/81
241-AN-106	200 East Area	4,542,480	9/81
241-AN-107	200 East Area	4,542,480	9/81
241-AP-101	200 East Area	4,542,480	10/86
241-AP-102	200 East Area	4,542,480	10/86
241-AP-103	200 East Area	4,542,480	10/86
241-AP-104	200 East Area	4,542,480	10/86
241-AP-105	200 East Area	4,542,480	10/86
241-AP-106	200 East Area	4,542,480	10/86
241-AP-107	200 East Area	4,542,480	10/86
241-AP-108	200 East Area	4,542,480	10/86
241-AW-101	200 East Area	4,542,480	8/80
241-AW-102	200 East Area	4,542,480	8/80
241-AW-103	200 East Area	4,542,480	8/80
241-AW-104	200 East Area	4,542,480	8/80
241-AW-105	200 East Area	4,542,480	8/80
241-AW-106	200 East Area	4,542,480	8/80
241-SY-101	200 West Area	4,542,480	4/77
241-SY-102	200 West Area	4,542,480	4/77
241-SY-103	200 West Area	4,542,480	4/77

* Nonaging is a waste that is not neutralized current acid waste.

2. There are four aging* waste DSTs.

Tank Numbers	Location	Design Capacity (liters)	Operation Date
241-AY-101	200 East Area	3,785,400	4/71
241-AY-102	200 East Area	3,785,400	4/76**
241-AZ-101	200 East Area	3,735,400	11/76
241-AZ-102	200 East Area	3,735,400	11/76

* Aging waste is neutralized current acid waste generated from the PUREX Plant.

** Estimated operational date

3. There is one tank in a transfer building.

Tank Number	Location	Design Capacity (liters)	Operation Date
241-EW-151	200 East Area Vent Station	3,028	11/55*

* Estimated operational date.

4. There are five double-contained receiver tanks.

Tank Number	Location	Design Capacity (liters)	Operation Date
244-BX	200 East Area	117,347	1983
244-TX	200 West Area	117,347	12/81
244-U	200 West Area	117,347	N/A
244-A	200 East Area	61,626	1975
244-S	200 West Area	76,768	1987

IV. DESCRIPTION OF DANGEROUS WASTES

A. DANGEROUS WASTE NUMBER - Enter the four digit number from Chapter 173-303 WAC for each listed dangerous waste you will handle. If you handle dangerous wastes which are not listed in Chapter 173-303 WAC, enter the four digit number(s) that describe the characteristics and/or the toxic contaminants of those dangerous wastes.

B. ESTIMATED ANNUAL QUANTITY - For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE - For each quantity entered in column B enter the unit of measure code. Units of measuer which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE CODE		METRIC UNIT OF MEASURE CODE	
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES**1. PROCESS CODES:**

For listed dangerous waste: For each listed dangerous waste entered in column A select the code(s) from the list of process codes contained in Section III to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non-listed dangerous wastes: For each characteristic or toxic contaminant entered in Column A, select the code(s) from the list of process codes contained in Section III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed dangerous wastes that possess that characteristic or toxic contaminant.

Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: DANGEROUS WASTES DESCRIBED BY MORE THAN ONE DANGEROUS WASTE NUMBER - Dangerous wastes that can be described by more than one Waste Number shall be described on the form as follows:

- Select one of the Dangerous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
- In column A of the next line enter the other Dangerous Waste Number that can be used to describe the waste. In column D(2) on that line enter "Included with above" and make no other entries on that line.
- Repeat step 2 for each other Dangerous Waste Number that can be used to describe the dangerous waste.

EXAMPLE FOR COMPLETING SECTION IV (shown in line numbers X-1, X-2, X-3, and X-4 below) - A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO. E.	A. DANGEROUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEA- SURE (enter code)	D. PROCESSES			
				1. PROCESS CODES (enter)			
X-1	K054	900	P	T03	D80		
X-2	D002	400	P	T03	D80		
X-3	D001	100	P	T03	D80		
X-4	D002			T03	D80		included with above
1	D001	426,850,108*	K	S02	T01		Storage-Tank/Treatment-Tank
* All dangerous waste numbers listed are included in this quantity.							
2	D002		↓	↓	↓		↓
3	D003		↓	↓	↓		↓
4	D004		↓	↓	↓		↓
5	D005		↓	↓	↓		↓
6	D006		↓	↓	↓		↓
7	D007		↓	↓	↓		↓
8	D008		↓	↓	↓		↓
9	D009		↓	↓	↓		↓

10	D010		↓	↓	↓			↓
11	D011		↓	↓	↓			↓
12	D018		↓	↓	↓			↓
13	D019		↓	↓	↓			↓
14	D022		↓	↓	↓			↓
15	D028		↓	↓	↓			↓
16	D029		↓	↓	↓			↓
17	D030		↓	↓	↓			↓
18	D033		↓	↓	↓			↓
19	D034		↓	↓	↓			↓
20	D035		↓	↓	↓			↓
21	D036		↓	↓	↓			↓
22	D038		↓	↓	↓			↓
23	D039		↓	↓	↓			↓
24	D040		↓	↓	↓			↓
25	D041		↓	↓	↓			↓
26	D043		↓	↓	↓			↓
27	WT01		↓	↓	↓			↓
28	WT02		↓	↓	↓			↓
29	WP01		↓	↓	↓			↓
30	WP02		↓	↓	↓			↓
31	F001		↓	↓	↓			↓
32	F002		↓	↓	↓			↓
33	F003		↓	↓	↓			↓
34	F004		↓	↓	↓			↓
35	F005		↓	↓	↓			↓
36	F039		↓	↓	↓			Included With above
37								
38								
39								
40								

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM SECTION D(1) ON PAGE 3.

The types of liquid mixed waste that could be stored, chemically treated, and evaporated in the DST System are as follows:

- Dilute miscellaneous waste generated on the Hanford Facility (100, 200, 300, 400 Areas, and the 340 Complex)
- Supernate and transuranic sludges that consist of neutralized cladding removal waste generated during Plutonium-Uranium Extraction (PUREX) Plant headend operations, and waste generated during the Plutonium Finishing Plant processing
- Concentrated DST waste (slurry) from the 242-A Evaporator
- Concentrated complexed waste and complexed waste generated from B Plant processing
- Neutralized current acid waste from the first extraction column at the PUREX Plant
- Liquid waste from the SST System
- Waste from the Grout Treatment Facility
- T Plant Complex decontamination activities
- Waste from the 204-AR Waste Unloading Station
- Leachate resulting from Hanford Facility land disposal and surface impoundment operations.

It is possible that any of these waste types could be stored and/or treated in any of the nonaging or aging DSTs.

The list of dangerous waste under Section IV.A includes constituents that have not been detected in the waste; however, knowledge of processes providing the waste to the DST System indicates the strong possibility that these constituents will be in the waste. Other constituents listed under Section IV.A have not been detected in the waste; however, the DST System has the potential to store these constituents. Multi-source Leachate (F039) is included as a waste derived from nonspecific source wastes F001 through F005.

V. FACILITY DRAWING Refer to attached drawing(s).

All existing facilities must include in the space provided on page 5 a scale drawing of the facility (see instructions for more detail).

VI. PHOTOGRAPHS Refer to attached photograph(s).									
All existing facilities must include photographs (<i>arial or ground-level</i>) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (<i>See instructions for more detail</i>).									
VII. FACILITY GEOGRAPHIC LOCATION This information is provided on the attached drawing(s) and photograph(s).									
LATITUDE (<i>degrees, minutes, & seconds</i>)					LONGITUDE (<i>degrees, minutes, & seconds</i>)				

VIII. FACILITY OWNER			
<input checked="" type="checkbox"/> A. If the facility owner is also the facility operator as listed in Section VII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.			
<input type="checkbox"/> B. If the facility owner is not the facility operator as listed in Section VII on Form 1, complete the following items:			
1. NAME OF FACILITY'S LEGAL OWNER			2. PHONE NO. (area code & no.)
3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
IX. OWNER CERTIFICATION			
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.			
NAME (print or type)	SIGNATURE	DATE SIGNED	
Keith A. Klein, Manager U. S. Department of Energy	L. L. Piper for	12/21/1999	
X. OPERATOR CERTIFICATION			
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.			
NAME (print or type)	SIGNATURE	DATE SIGNED	
SEE ATTACHMENT			

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

L. L. Piper for
Owner/Operator
Keith A. Klein, Manager
U.S. Department of Energy

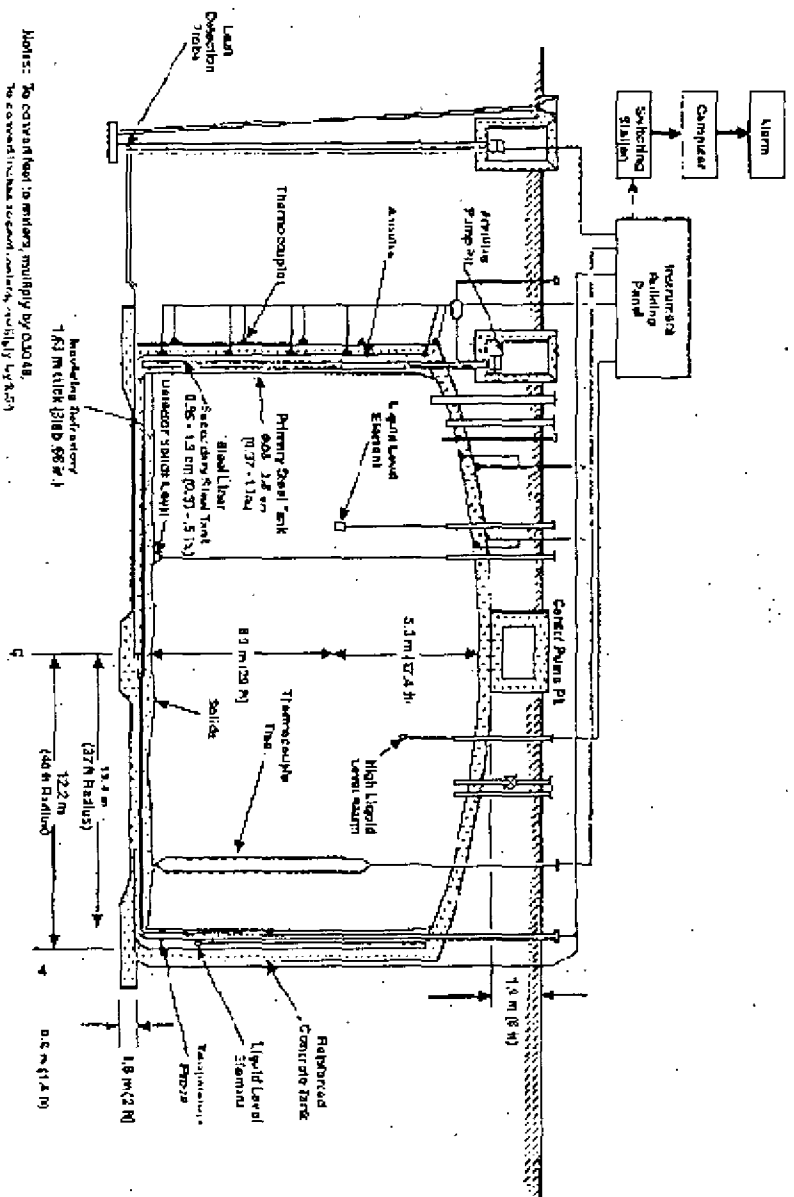
12/21/99
Date

M. P. DeLozier
Co-Operator
M. P. DeLozier
President and RPP General Manager
CH2M HILL Hanford Group, Inc.*

12/22/99
Date

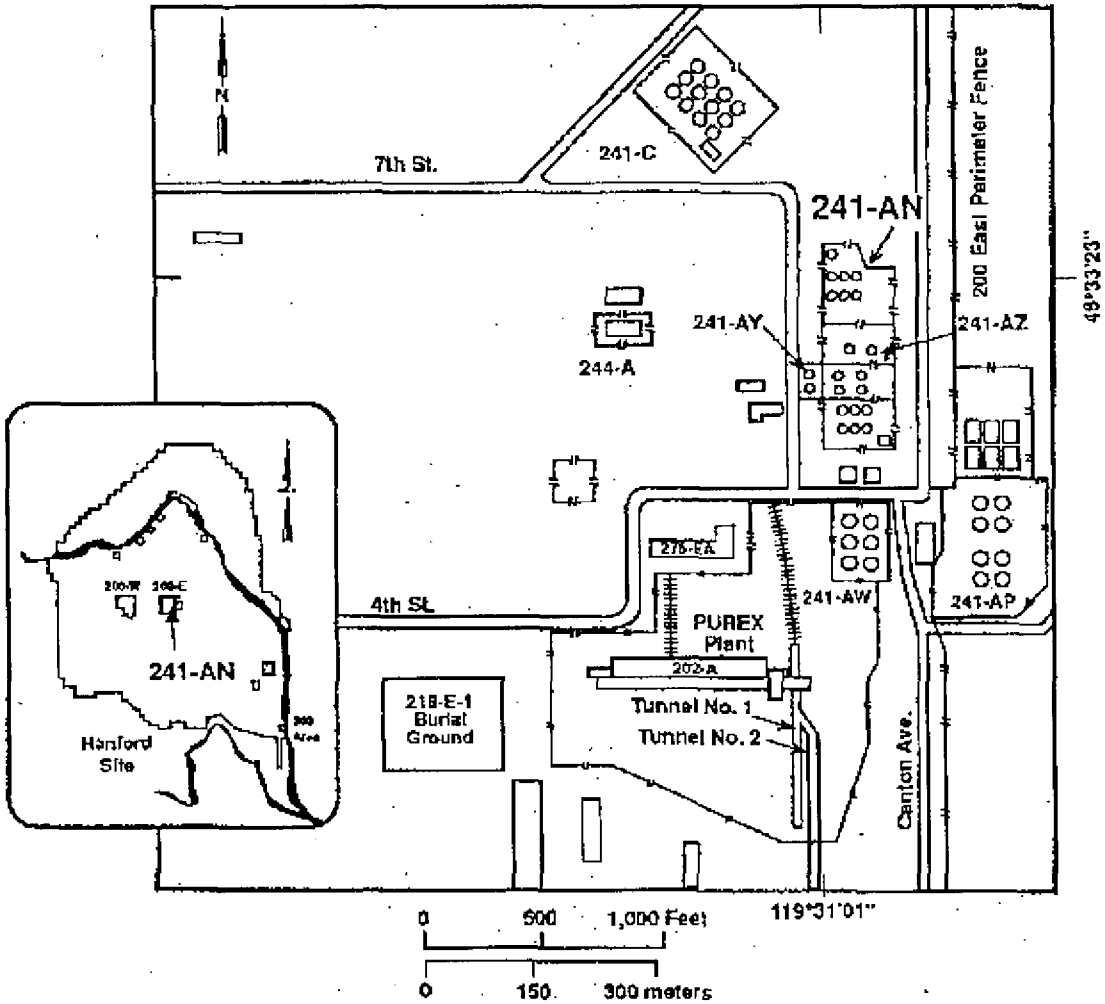
*Co-operator under Department of Energy Office of River Protection Contract #DE-AC06-99L14047.

Typical Nonaging Waste Double-Shell Tank

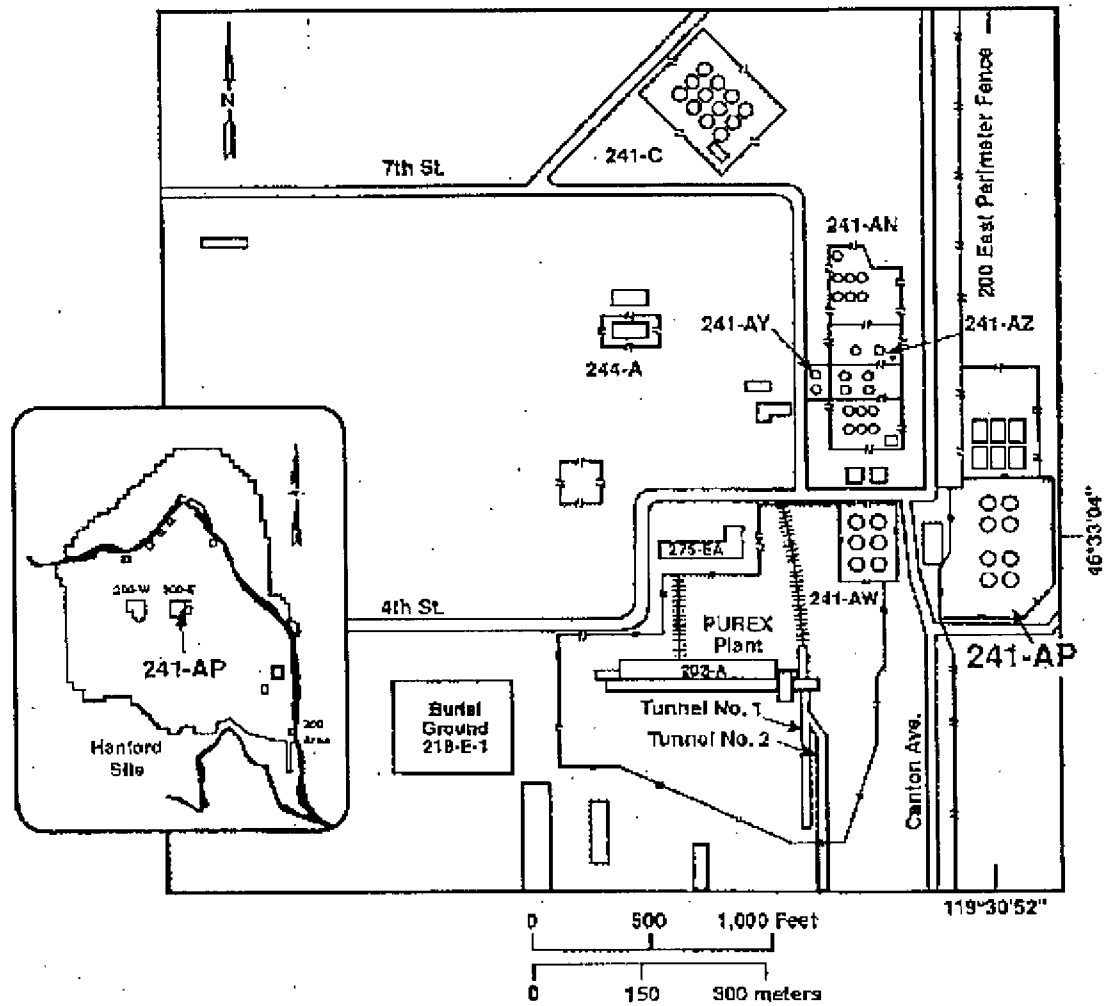


3921048.3A

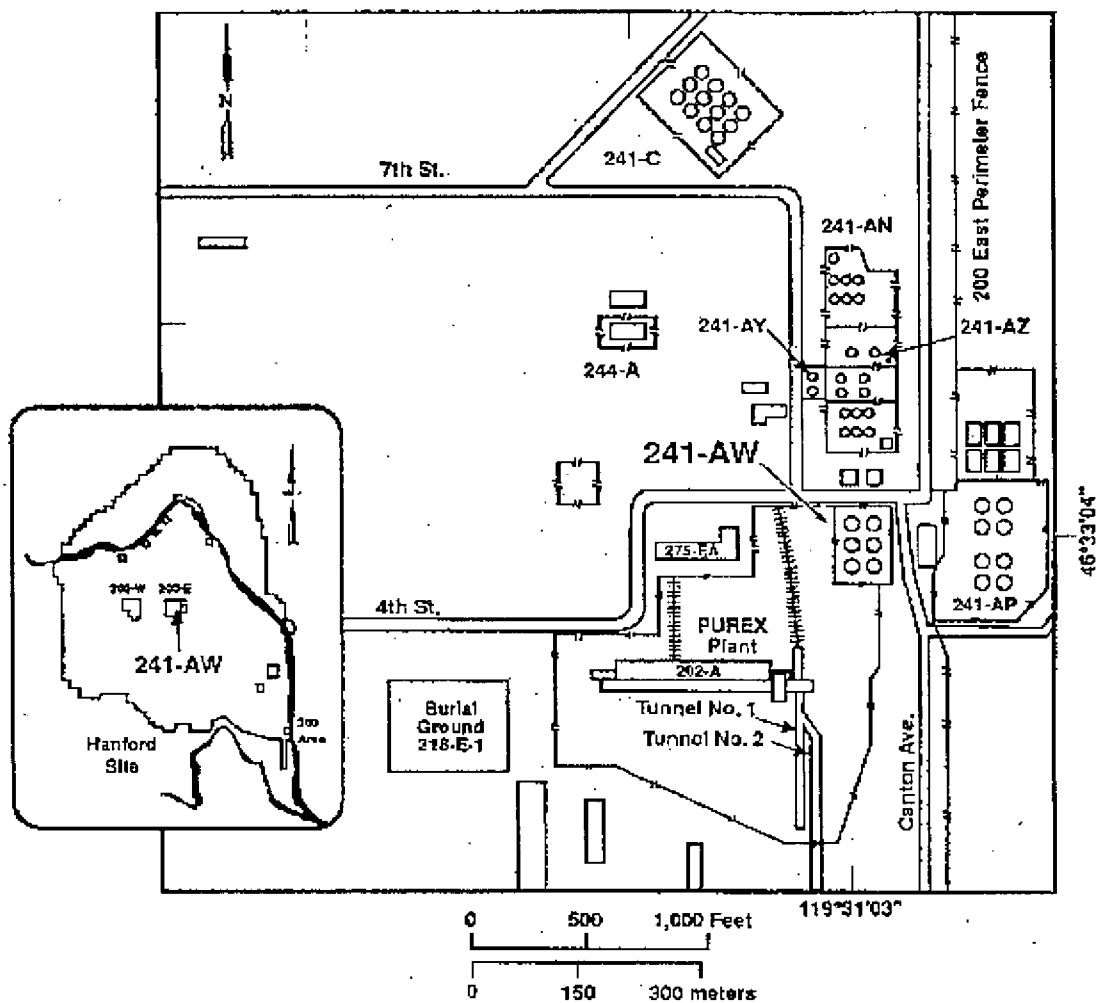
241-AN Double-Shell Tank
Site Plan



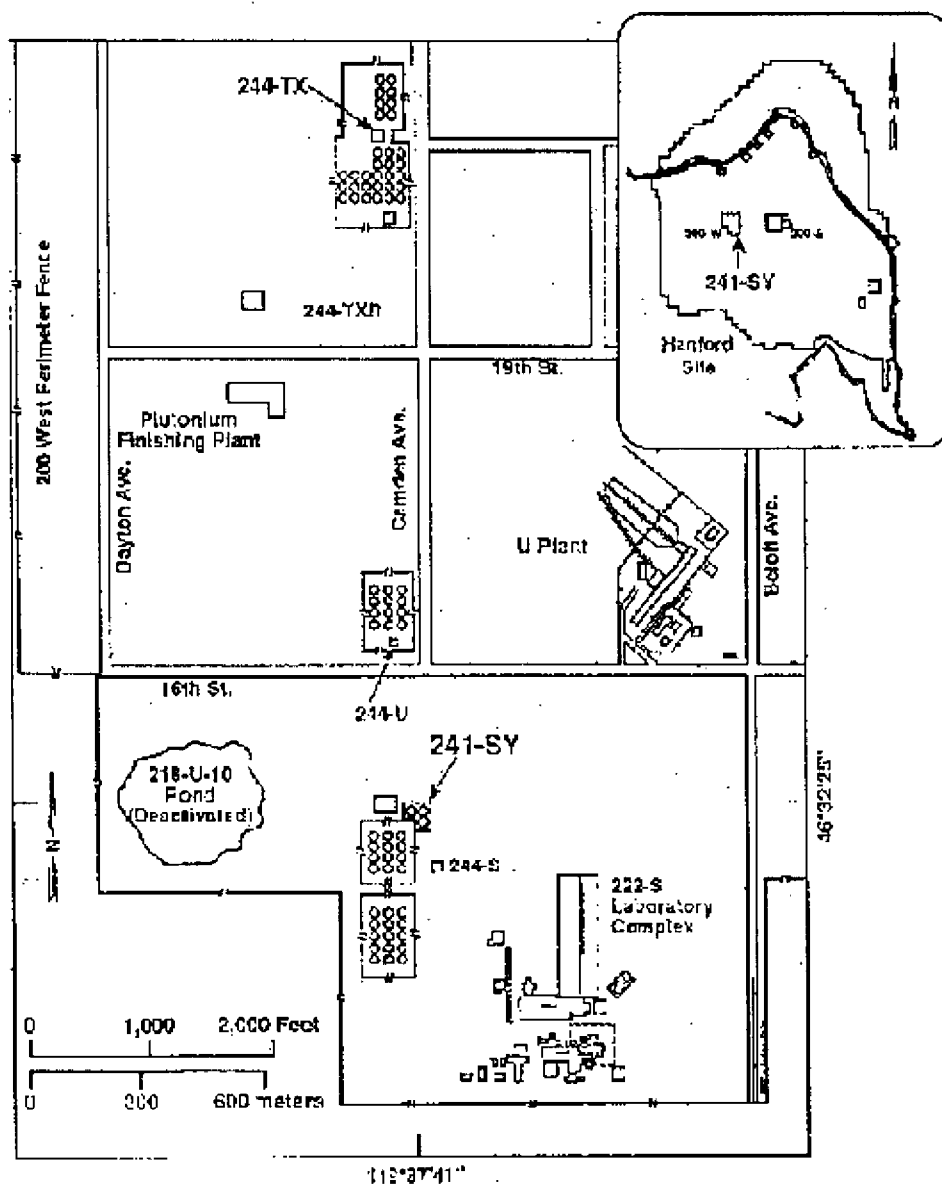
241-AP Double-Shell Tank Site Plan



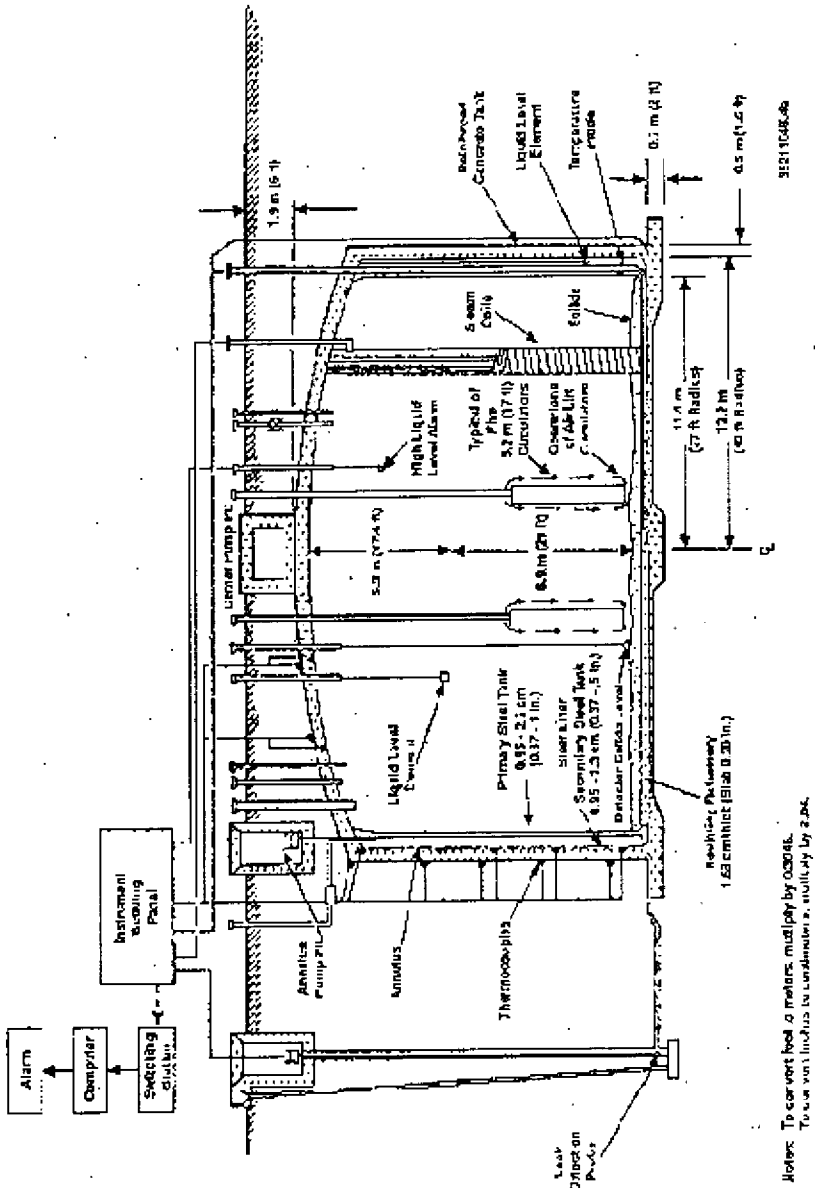
241-AW Double-Shell Tank Site Plan



241-SY Double-Shell Tank Site Plan

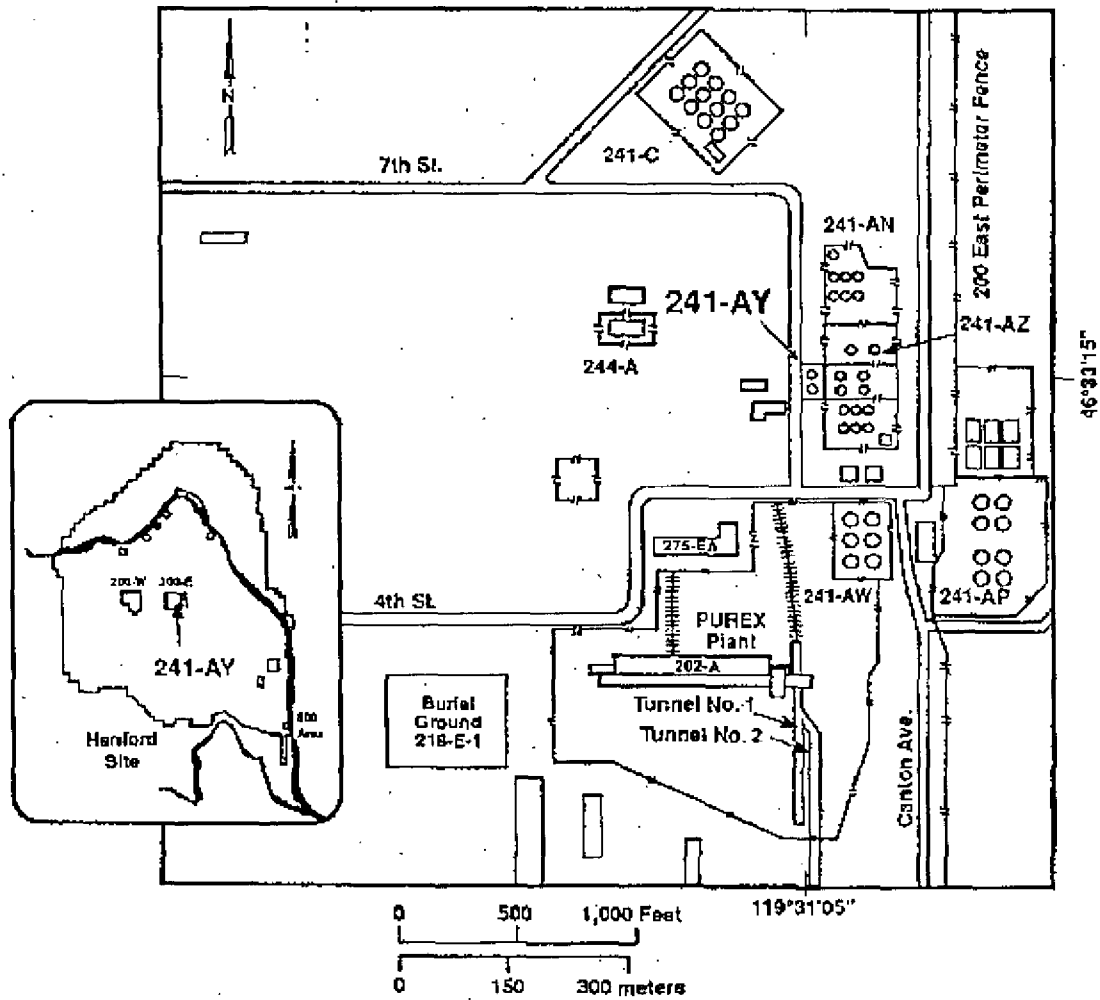


Typical Aging Waste Double-Shell Tank

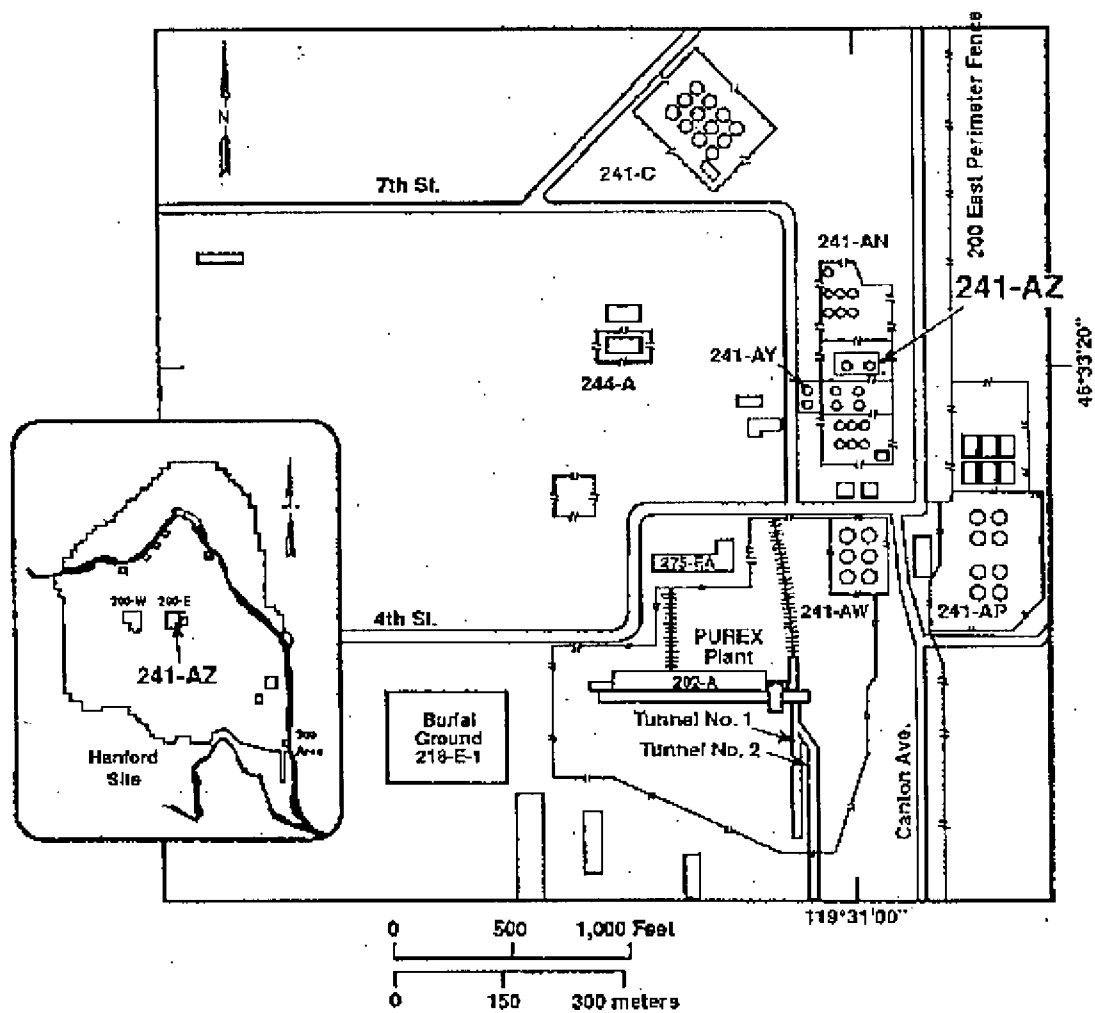


39211048.4a

241-AY Aging Waste Double-Shell Tank Site Plan



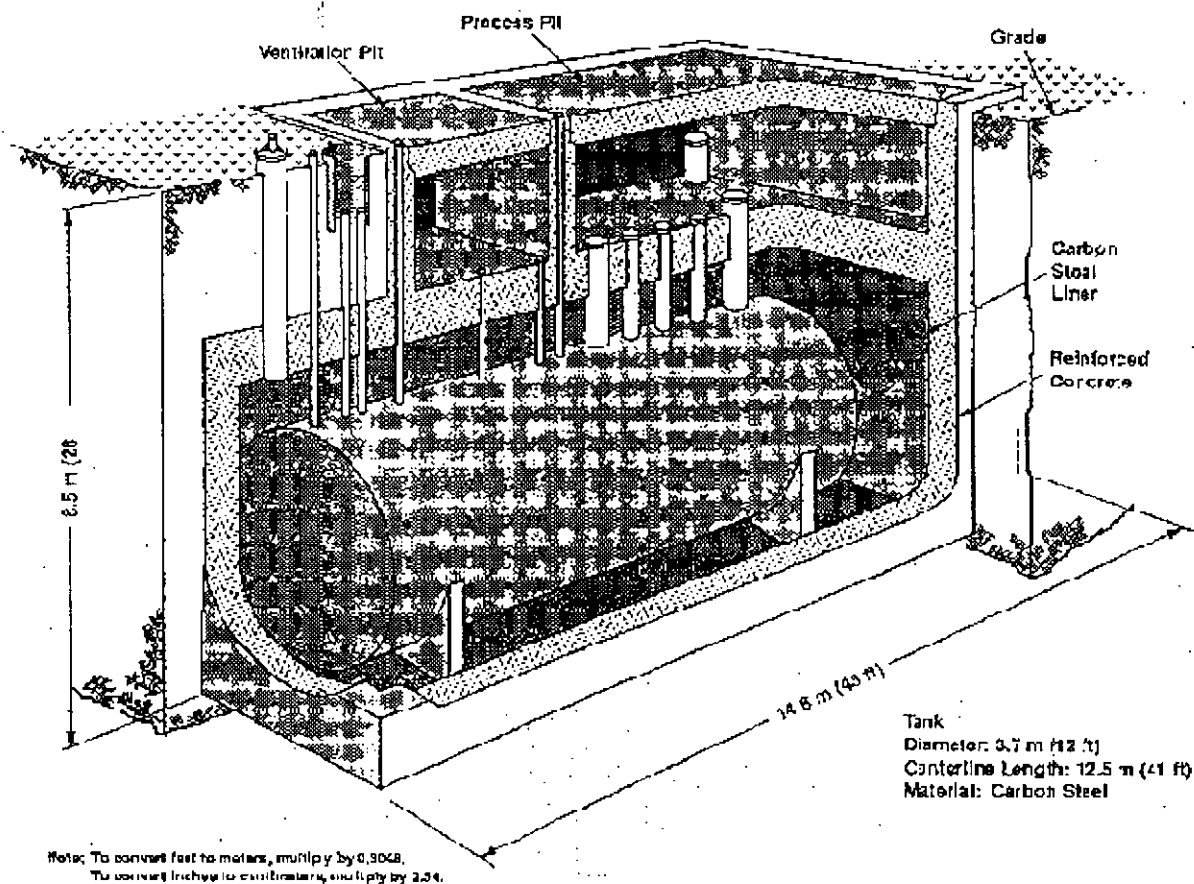
241-AZ Aging Waste Double-Shell Tank Site Plan



H96070161.271

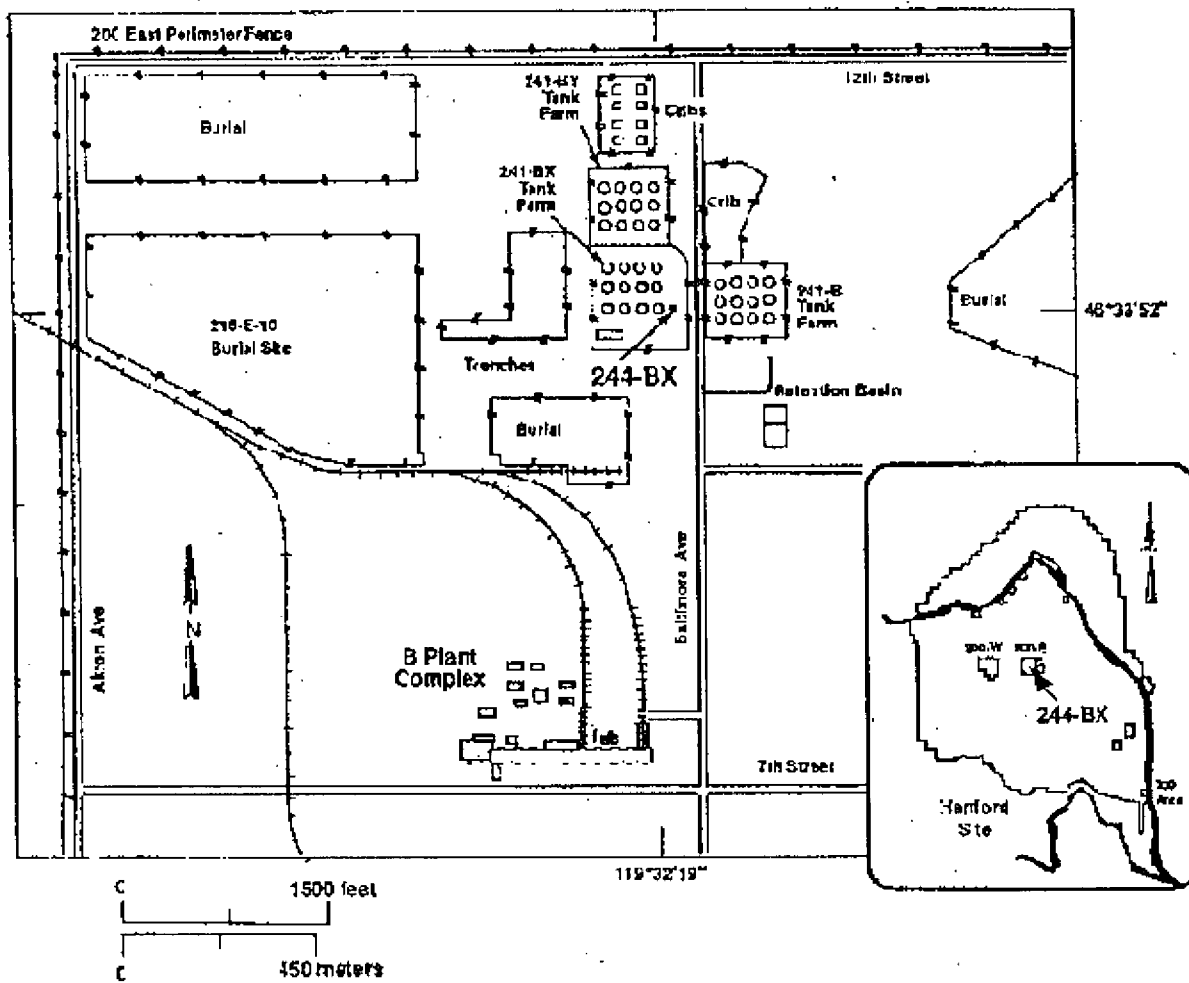
TYPICAL DOUBLE-CONTAINED RECEIVER TANK

(244-BX, 244-TX, and 244-U)



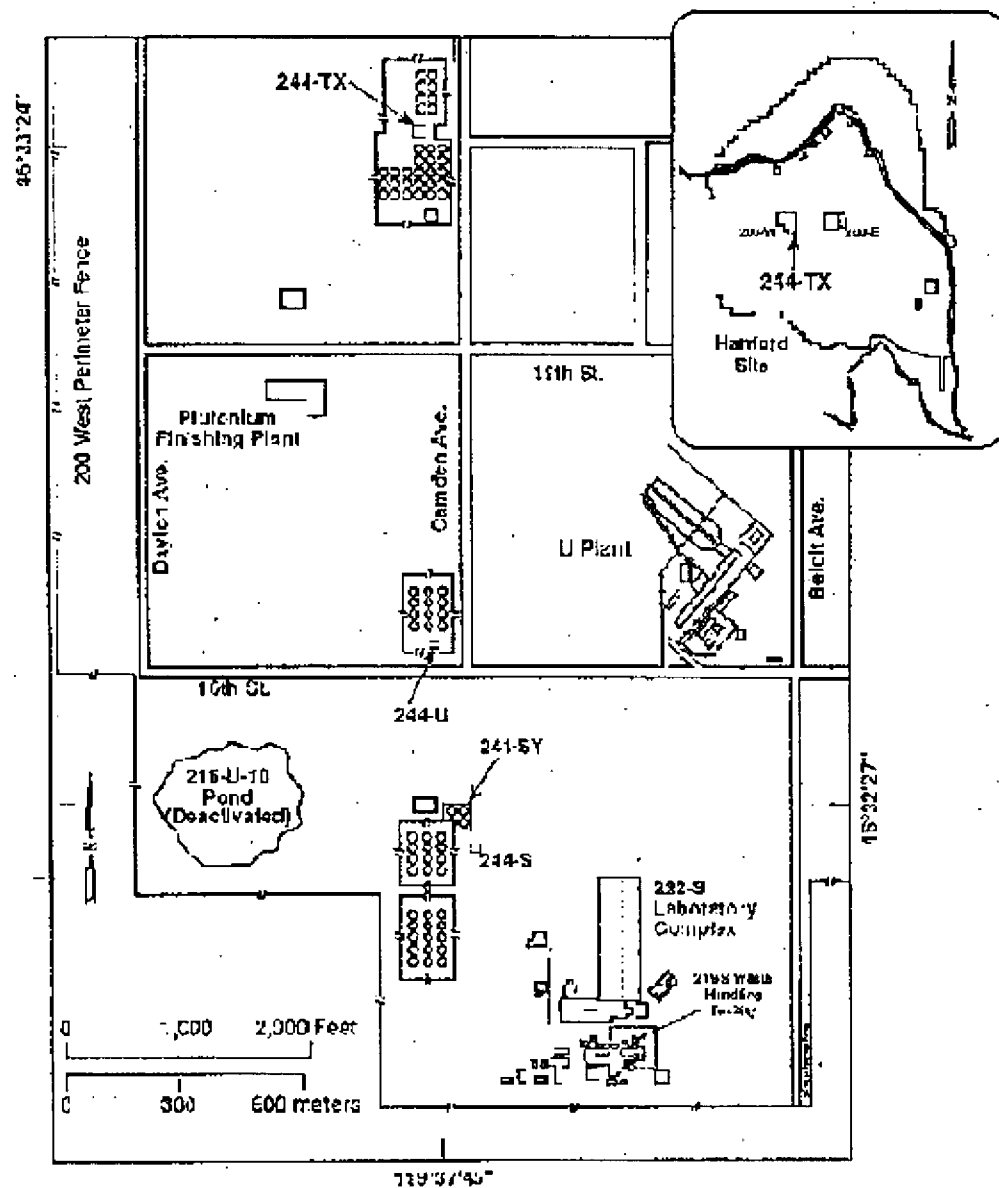
39208044.1

244-BX Double-Contained Receiver Tank Site Plan

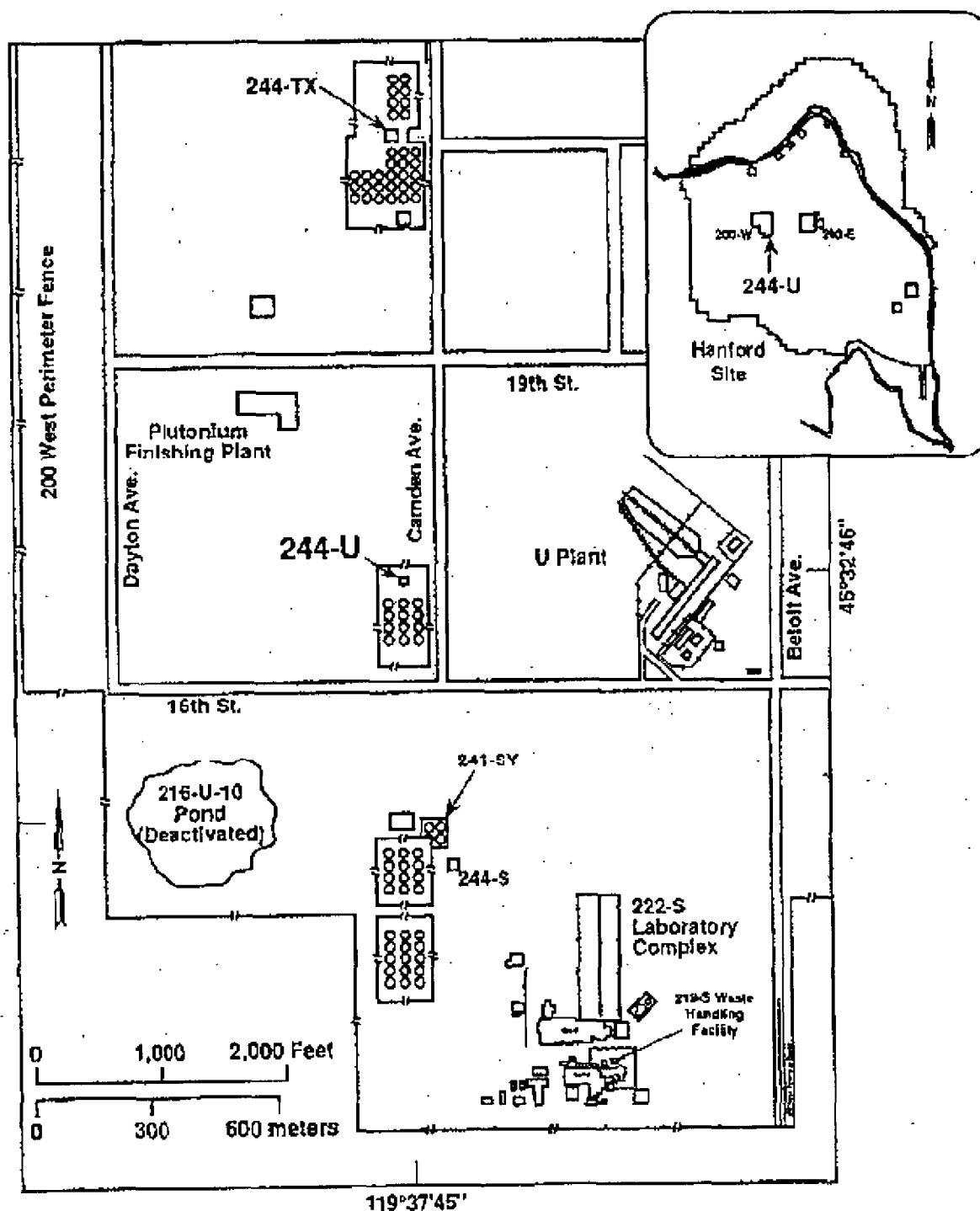


H96070161.41d

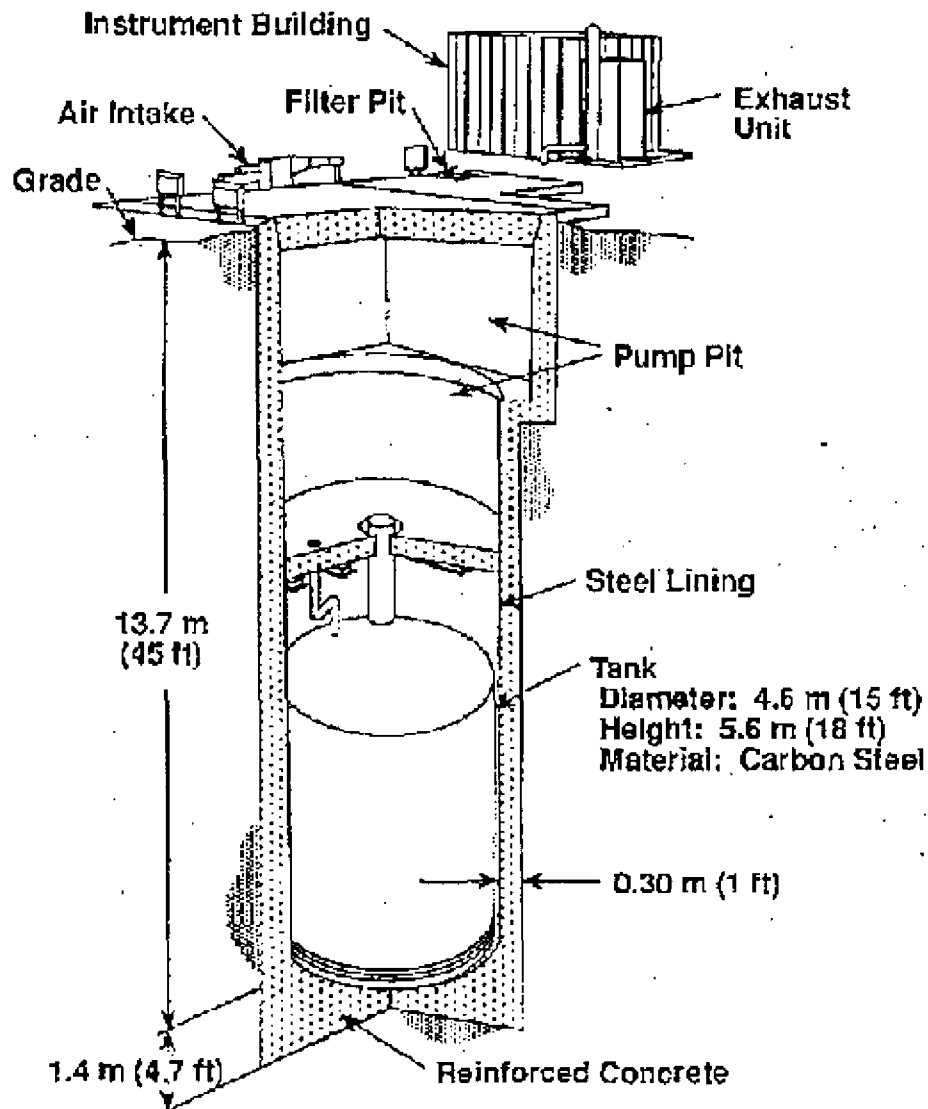
244-TX Double-Contained Receiver Tank Site Plan



244-U Double-Contained Receiver Tank Site Plan

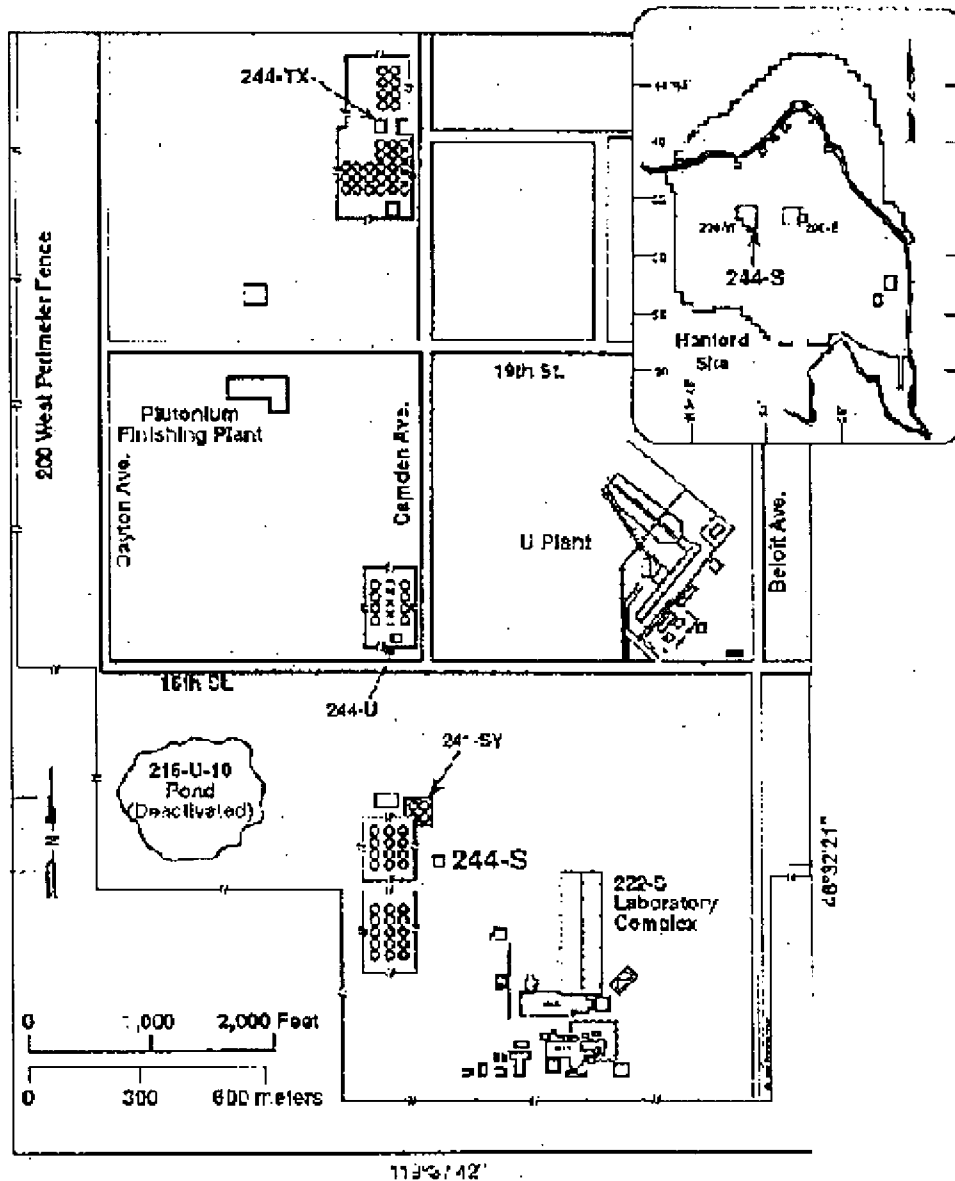


Typical Double-Contained Receiver Tank (244-A and 244-S)

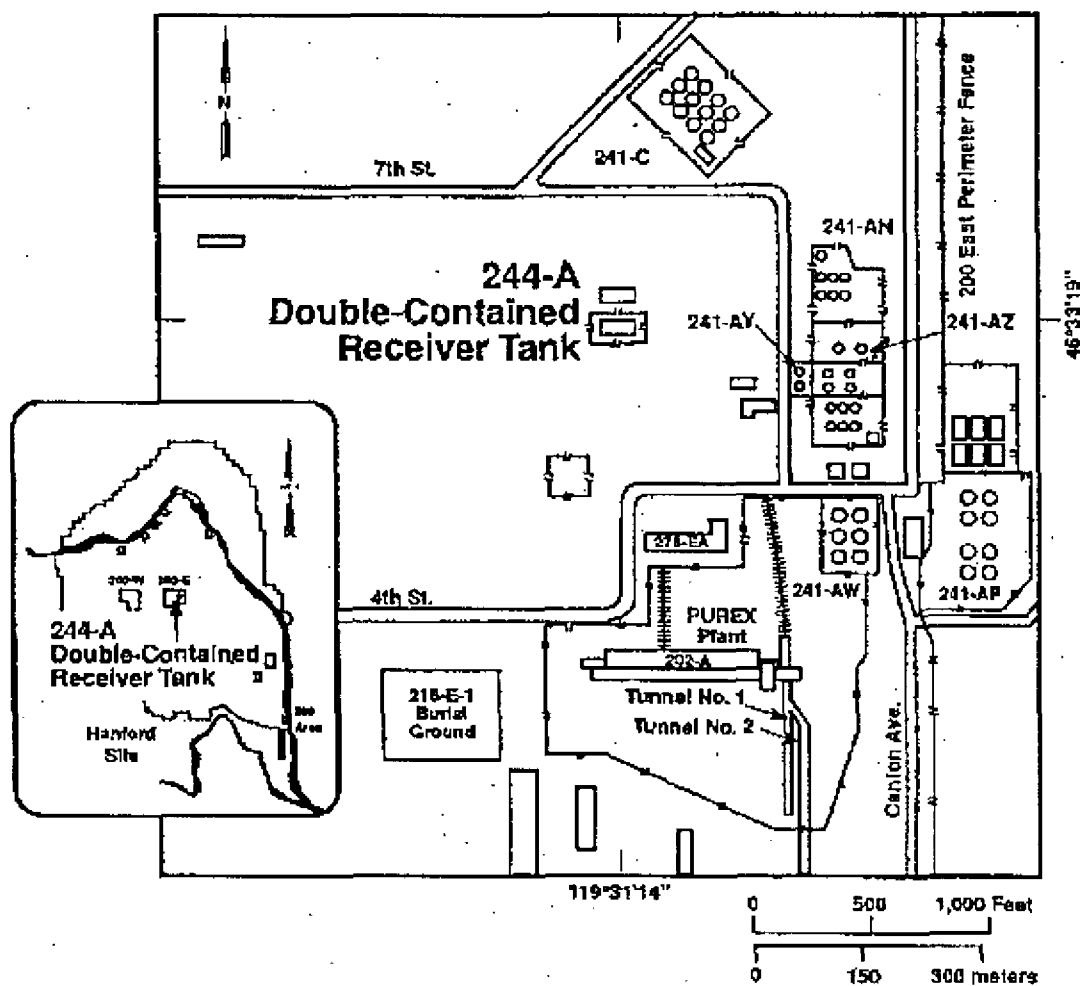


Notes: To convert feet to meters, multiply by 0.3048.

244-S Double-Contained Receiver Tank Site Plan

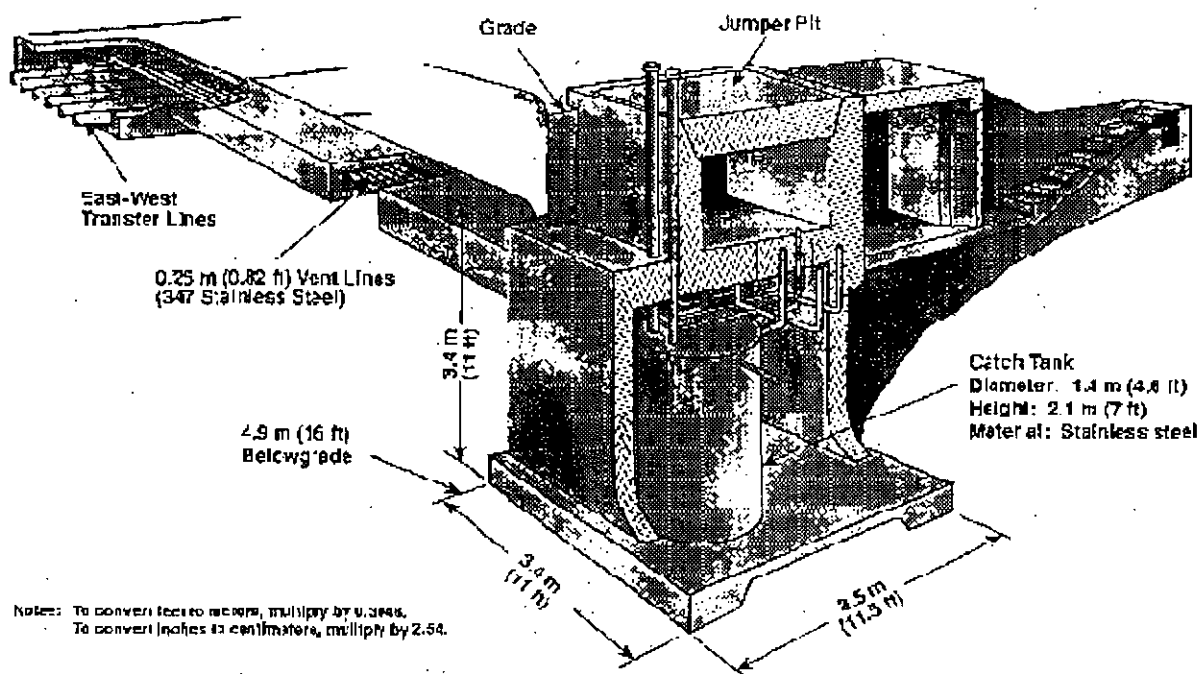


244-A Double-Contained Receiver Tank Site Plan



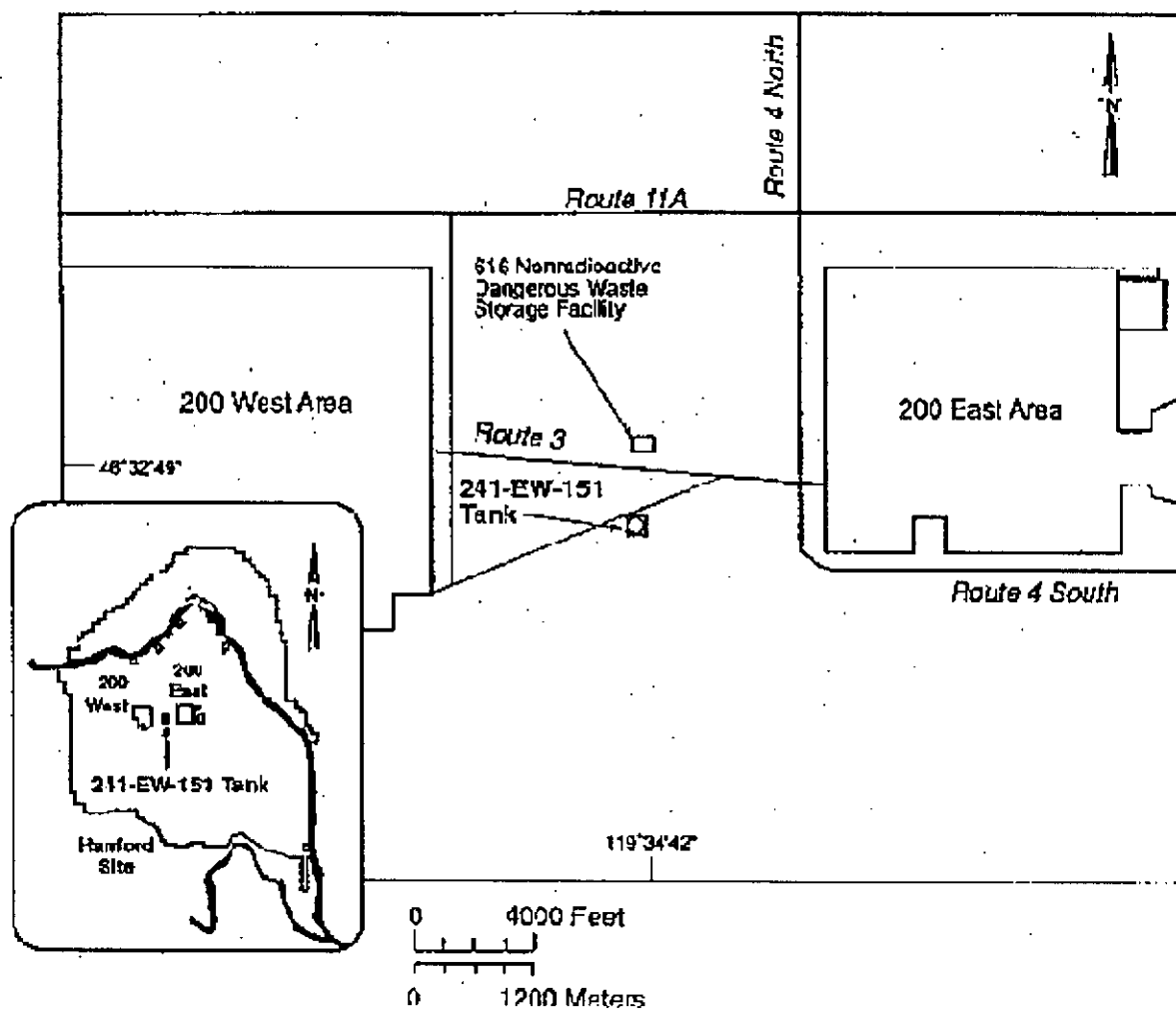
H96070161.27a

241-EW-151 TANK (200 AREA EAST-WEST VENT STATION)



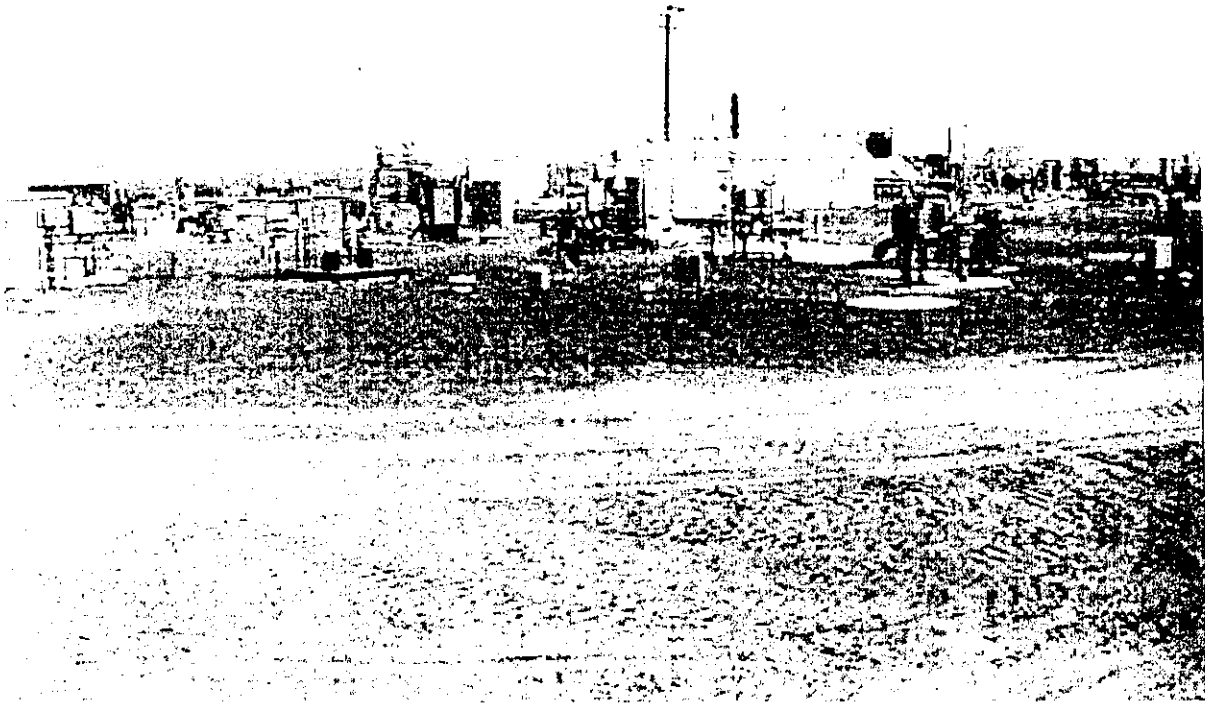
39208044.2

**241-EW-151 Tank
(200 Area East-West Vent Station)
Site Plan**



H96070161.33

241-AN DOUBLE-SHELL TANKS



46°33'23"
119°31'01"

96080579-24CN
(PHOTO TAKEN 1996)

241-AP DOUBLE-SHELL TANKS



46°33'04"
119°30'52"

8704135-12CN
(PHOTO TAKEN 1987)

241-AW DOUBLE-SHELL TANKS



46°33'04"
119°31'03"

8704135-11CN
(PHOTO TAKEN 1987)

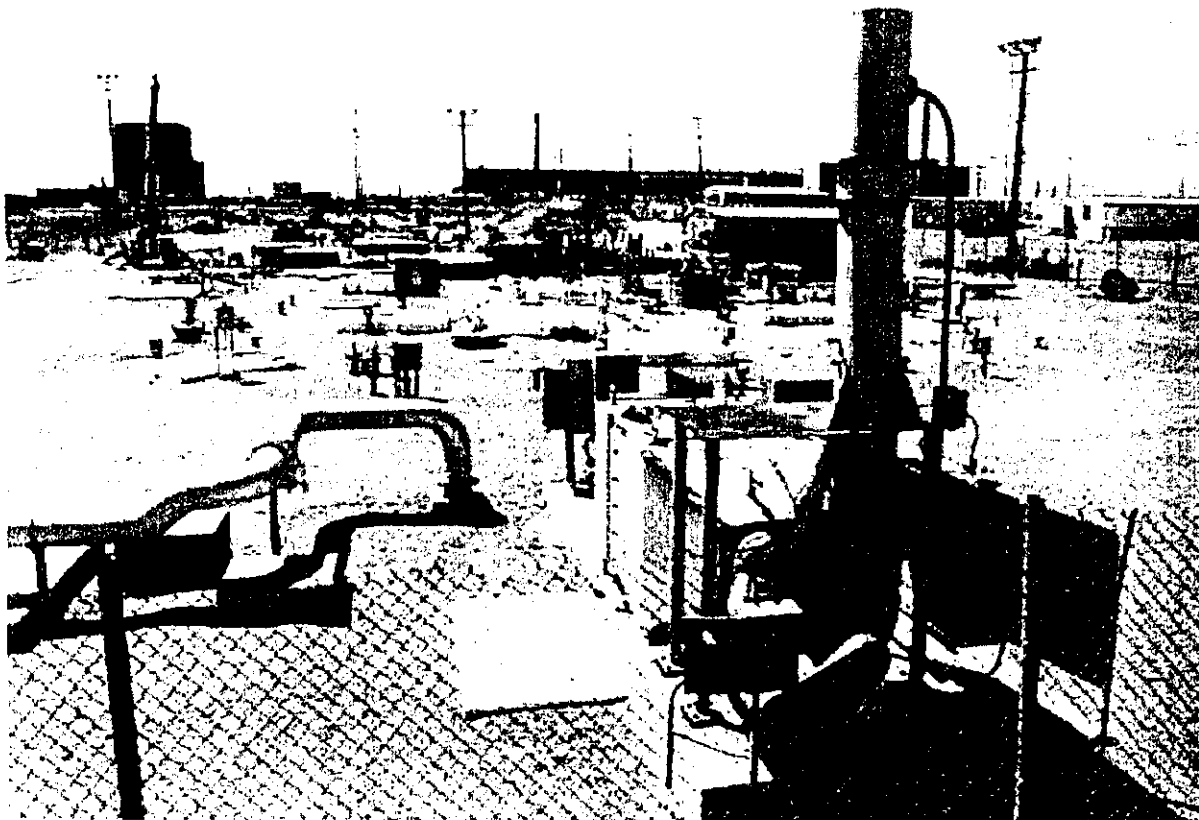
241-SY DOUBLE-SHELL TANKS



46°32'25"
119°37'41"

96080579-1CN
(PHOTO TAKEN 1996)

241-AY AGING WASTE DOUBLE-SHELL TANKS



46°33'15"
119°31'05"

8704135-10CN
(PHOTO TAKEN 1987)

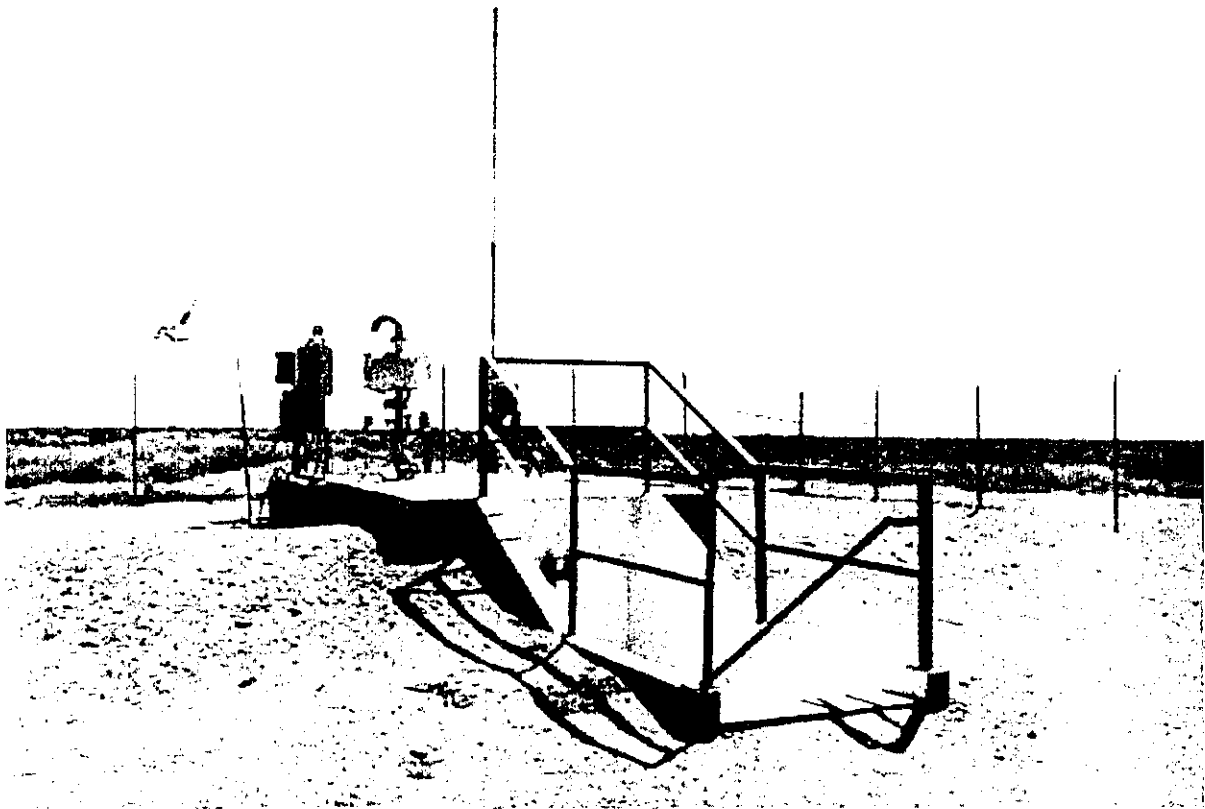
241-AZ AGING WASTE DOUBLE-SHELL TANKS



46°33'20"
119°31'00"

96020361-17CN
(PHOTO TAKEN 1996)

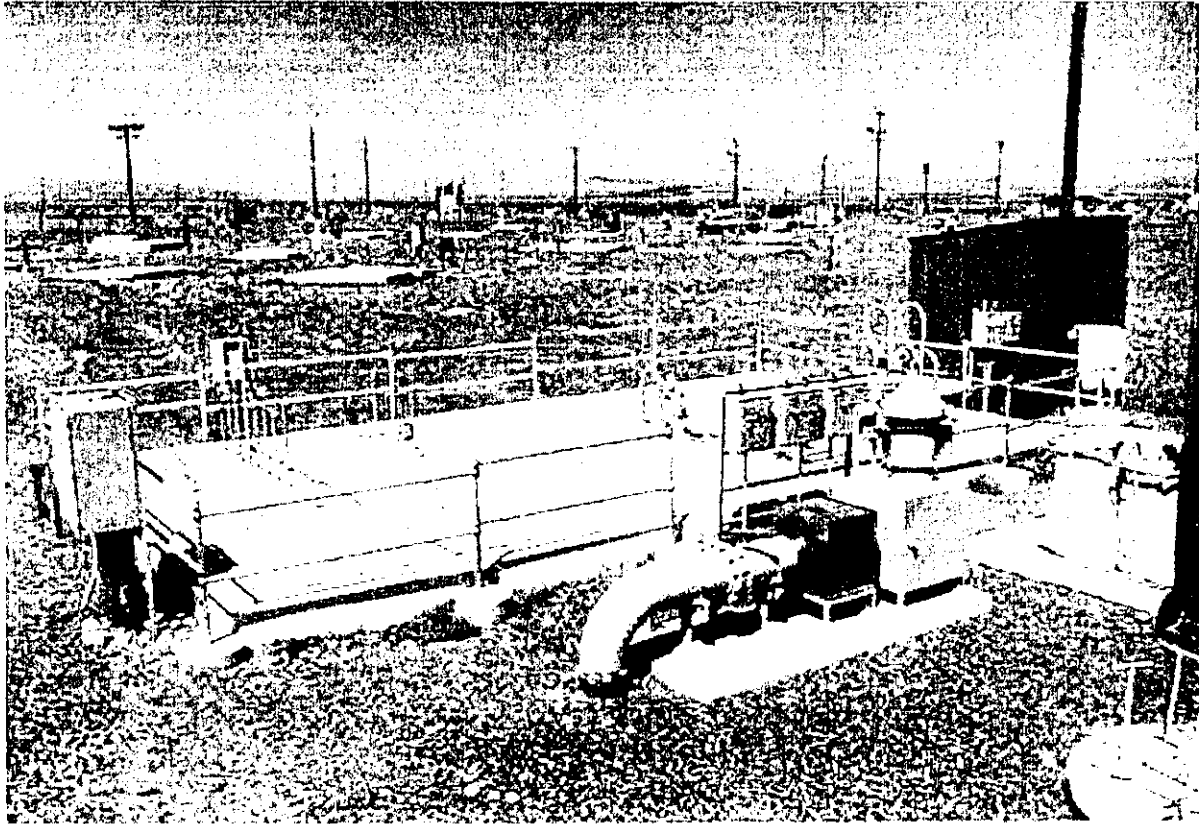
241-EW-151 TANK



46°32'49"
119°34'52"

8704433-17CN
(PHOTO TAKEN 1987)

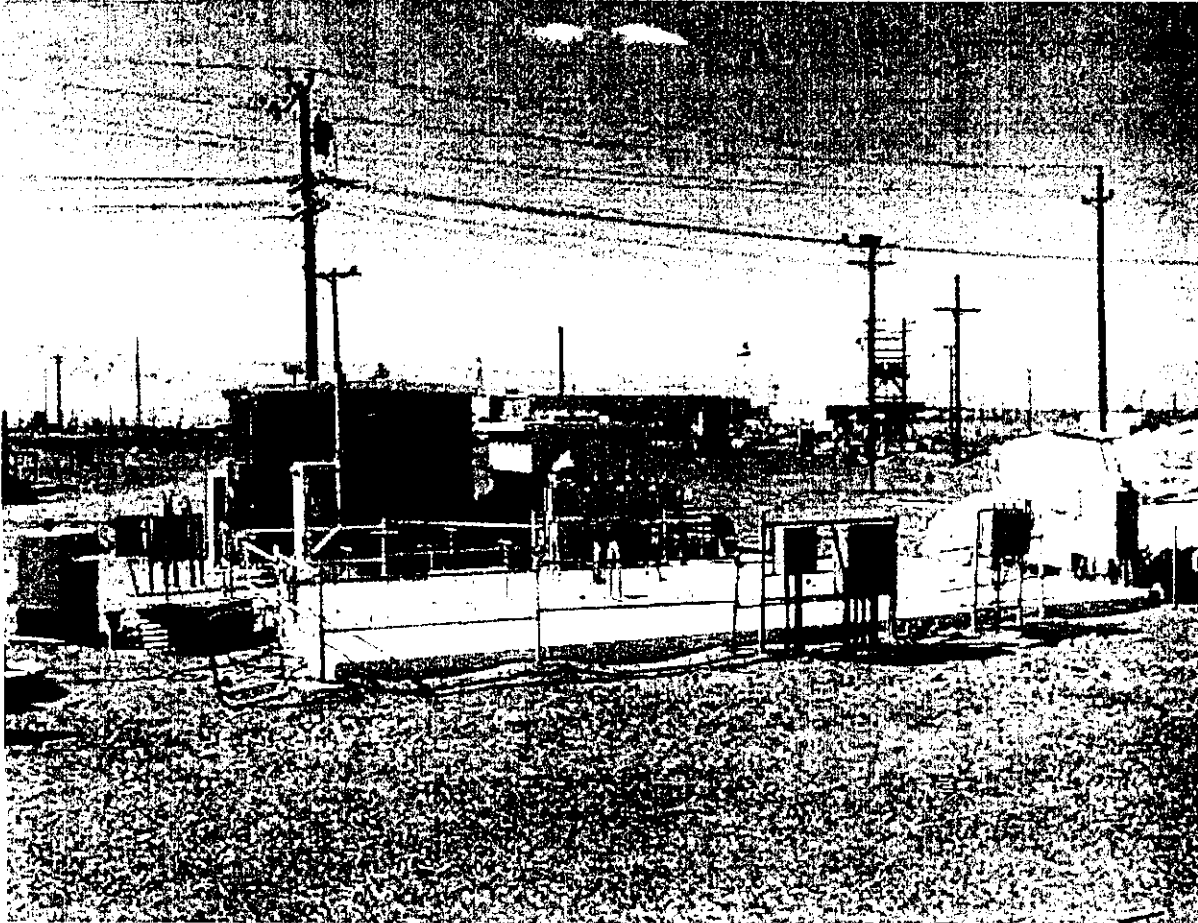
244-BX DOUBLE-CONTAINED RECEIVER TANK



46°33'52"
119°32'19"

8704135-18CN
(PHOTO TAKEN 1987)

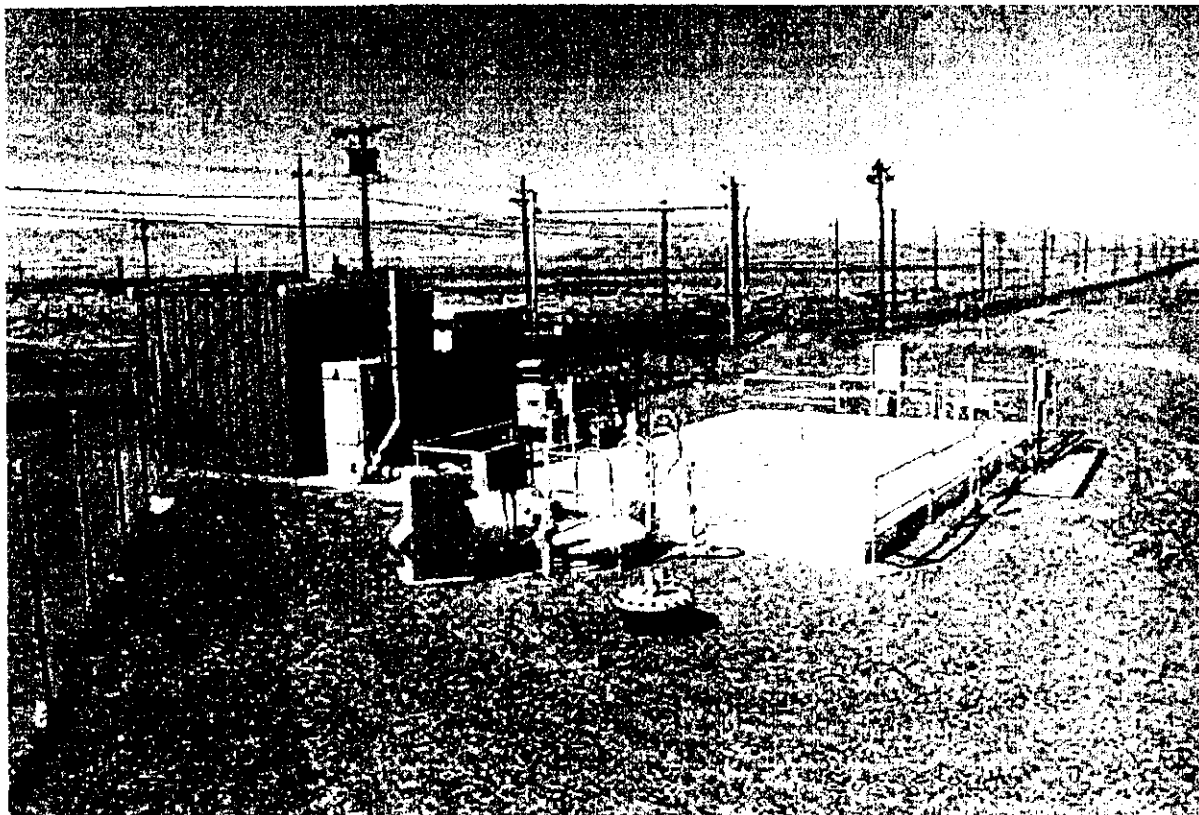
244-TX DOUBLE-CONTAINED RECEIVER TANK



46°33'24"
119°37'45"

8704433-7CN
(PHOTO TAKEN 1987)

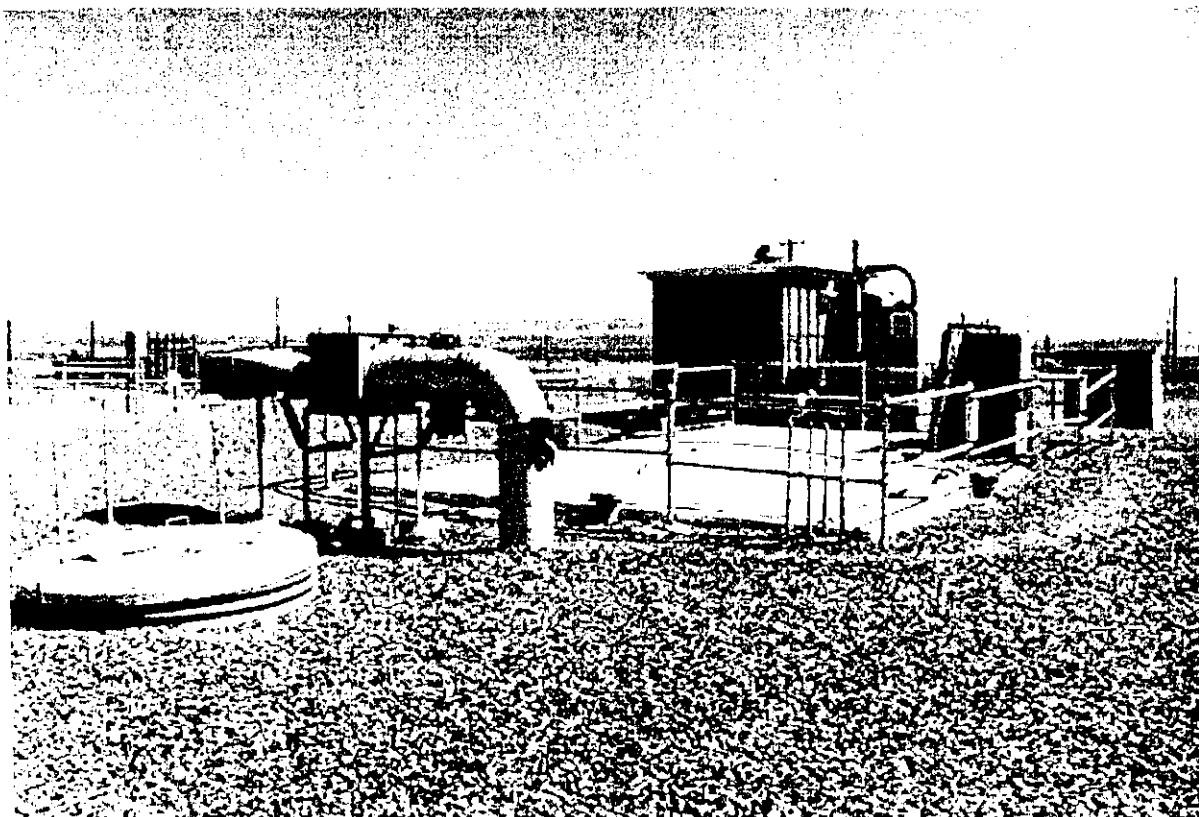
244-U DOUBLE-CONTAINED RECEIVER TANK



46°32'46"
119°37'45"

8704433-4CN
(PHOTO TAKEN 1987)

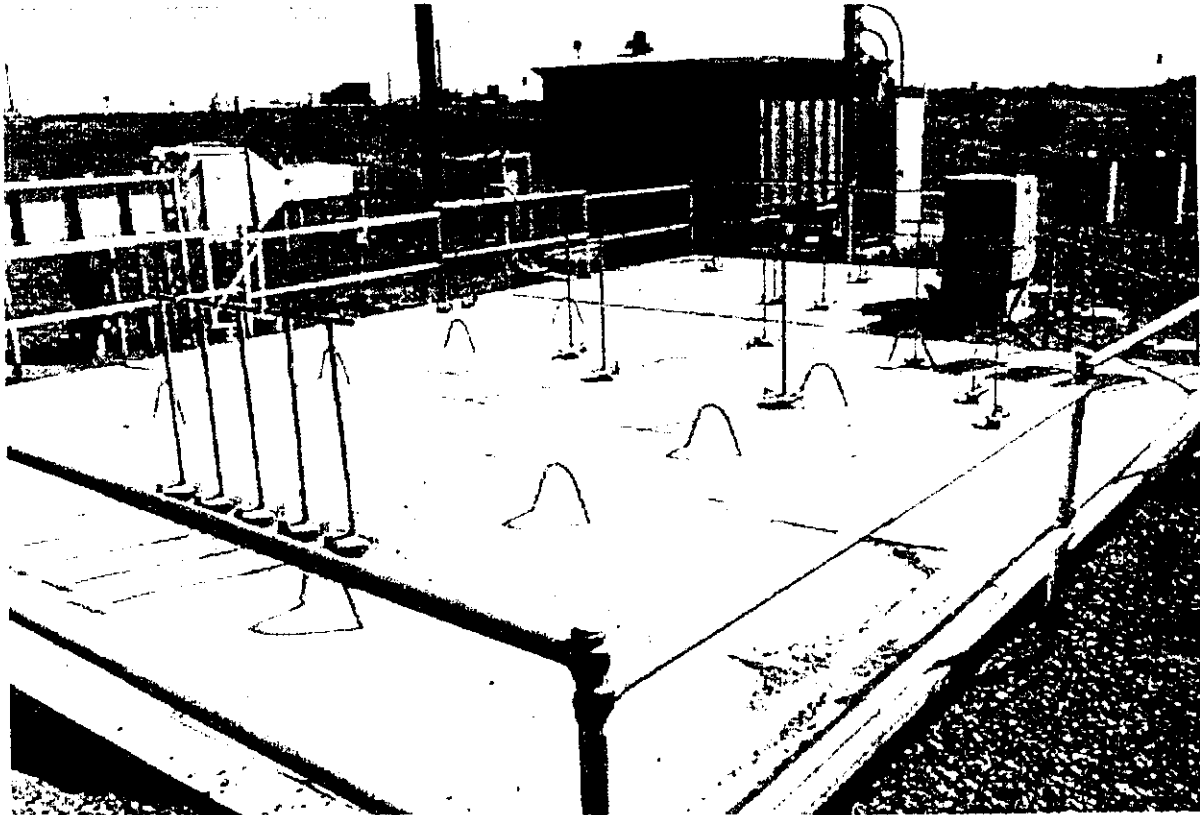
244-A DOUBLE-CONTAINED RECEIVER TANK



46°33'19"
119°31'14"

8704433-15
(PHOTO TAKEN 1987)

244-S DOUBLE-CONTAINED RECEIVER TANK



46°32'21"
119°37'42"

8704433-2CN
(PHOTO TAKEN 1987)

DOE/RL-88-21
Single-Shell Tank System
Rev. 6, 12/21/99

Please print or type in the unshaded areas only
(fill-in areas are spaced for elite type, i.e. 12 character/inch).

FORM 3	DANGEROUS WASTE PERMIT APPLICATION	EPA/STATE I.D. NUMBER WA7890008967
FOR OFFICIAL USE ONLY		
APPLICATION APPROVED	DATE RECEIVED (mo., day, & yr.)	COMMENTS
II. FIRST OR REVISED APPLICATION		
Place an "X" in the appropriate box in A or B below (mark one box only) to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA/STATE I.D. Number, or if this is a revised application, enter your facility's EPA/STATE I.D. Number in Section I above.		
<div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <p>A. FIRST APPLICATION (place an "X" below and provide the appropriate date)</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <input type="checkbox"/> 1. EXISTING FACILITY <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <div style="border: 1px solid black; padding: 2px;">MO.</div> <div style="border: 1px solid black; padding: 2px;">DAY</div> <div style="border: 1px solid black; padding: 2px;">YEAR</div> </div> <div style="display: flex; justify-content: space-around; margin-top: 2px;"> <div style="border: 1px solid black; padding: 2px;">03</div> <div style="border: 1px solid black; padding: 2px;">22</div> <div style="border: 1px solid black; padding: 2px;">1943</div> </div> </div> <div style="width: 48%;"> <input type="checkbox"/> 2. NEW FACILITY (Complete item below) <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <div style="border: 1px solid black; padding: 2px;">MO.</div> <div style="border: 1px solid black; padding: 2px;">DAY</div> <div style="border: 1px solid black; padding: 2px;">YEAR</div> </div> </div> </div> <p style="font-size: small;">(See instructions for definition of "existing" facility. Complete item below.) *FOR EXISTING FACILITIES, PROVIDE THE DATE (mo., day, & yr.) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED (use the boxes to the left) <i>*The date construction of the Hanford Facility commenced.</i></p> </div> <div style="width: 48%;"> <p>FOR NEW FACILITIES, PROVIDE THE DATE, (mo., day, & yr.) OPERATION BEGAN OR IS EXPECTED TO BEGIN</p> </div> </div>		
<p>B. REVISED APPLICATION (place an "X" below and complete Section I above)</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <input checked="" type="checkbox"/> 1. FACILITY HAS AN INTERIM STATUS PERMIT </div> <div style="width: 48%;"> <input checked="" type="checkbox"/> 2. FACILITY HAS A FINAL PERMIT </div> </div>		
III. PROCESS - CODES AND CAPACITIES		
<p>A. PROCESS CODE - Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process (including its design capacity) in the space provided on the (Section III-C).</p>		
<p>B. PROCESS DESIGN CAPACITY - For each code entered in column A enter the capacity of the process.</p>		
<p>1. AMOUNT - Enter the amount.</p>		
<p>2. UNIT OF MEASURE - For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.</p>		
PROCESS	PRO- CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER (barrel, drum, etc.)	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D80	GALLONS OR LITERS
LANDFILL	D81	ACRE-FEET (the volume that would cover one acre to a depth of one foot) OR HECTARE-METER
LAND APPLICATION	D82	ACRES OR HECTARES
OCEAN DISPOSAL	D83	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D84	GALLONS OR LITERS
PROCESS	PRO- CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided: Section III-C.)	T04	GALLONS PER DAY OR LITERS PER DAY
UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE
GALLONS	G	LITERS PER DAY
LITERS	L	TONS PER HOUR
CUBIC YARDS	Y	METRIC TONS PER HOUR
CUBIC METERS	C	GALLONS PER HOUR
GALLONS PER DAY	U	LITERS PER HOUR
UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE
ACRE-FEET	A	HECTARE-METER
HECTARE-METER	F	ACRES
ACRES	B	HECTARES
HECTARES	Q	

EXAMPLE FOR COMPLETING SECTION III (shown in line numbers X-1 and X-2 below): A facility has two storage tanks; one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY		FOR OFFICIAL USE ONLY			
		1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)				
X-1	S02	600	G				
X-2	T03	20	E				
1	S02	348,390,160	L				
2	T01	2,271,240	V				
3	S03	0.11	C				
4							
5							
6							
7							
8							
9							
10							

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESS (CODE "T04"). FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

S02, T01

The Single-Shell Tank (SST) System consists of 149 tanks that were built between the years 1943 and 1964 to store mixed waste (S02) generated on the Hanford Site. There are two types of tanks in the SST System, the 100 series and the 200 series. The 133 100-series SSTs are 23 meters (75 feet) in diameter with operating capacities of 1,892,700 to 3,785,400 liters (500,000 to 1,000,000 gallons). The sixteen 200-series SSTs are smaller and of a similar design with a 6 meter (20 foot) diameter and a capacity of 208,197 liters (55,000 gallons). The SST System also includes two waste transfer vault systems, the 244-AR and 244-CR Vault. The 244-AR Vault contains four permitted tanks and the 244-CR Vault contains two permitted tanks. Table 1 lists tank numbers, year of construction, year removed from service, and operating capacity.

The maximum process design capacity for tank storage at the SST System is 348,390,160 liters (92,035,230 gallons).

Treatment of the mixed waste in the SST System occurs when solids and interstitial liquids are separated and/or cooling liquids are added (T01). These treatment processes involve, but are not limited to, mechanical retrieval, sluicing, and saltwell pumping of the mixed waste. The SST System has a process design limit of 2,271,240 liters (600,000 gallons) per day based on the simultaneous pumping of two SSTs in a 24-hour period. Ancillary equipment used for the transfer of liquid mixed waste consists of: (1) centrifugal pumps capable of pumping liquid mixed waste at 1,514 liters (400 gallons) per minute, (2) induction pumps capable of pumping liquid waste from the salt well at 19 liters (5 gallons) per minute, and (3) associated valves and piping to the DSY System. Mechanical equipment, sluicing equipment, and similar treatment/processes are not limited to the processes described previously.

The maximum process design capacity for tank treatment at the SST System is 2,271,240 liters (600,000 gallons) per day.

S03

Associated with the SST System are 54 inactive diversion boxes designated as waste piles (S03). A summary of the SST System and corresponding diversion boxes is provided in Table 2. All diversion boxes used within the SST System are inactive and presently are isolated (weather covered). "Isolated" as used here means exterior water intrusion has been restricted.

The maximum process design capacity for waste pile storage at the SST System is approximately 23 kilograms (50 pounds) of waste lead stored in each diversion box (worst-case scenario) accounting for a total of 1,202 kilograms (2,650 pounds) or 0.11 cubic meter (0.14 cubic yard) of waste lead in storage.

Table 1 - Single Shell Tank Summary

Tank Number	Year of Construction	Year Removed from Service ¹	Operating Capacity (Liters)
241-A-101	1954-1955	1980	3,785,400
241-A-102	1954-1955	1980	3,785,400
241-A-103	1954-1955	1980	3,785,400
241-A-104	1954-1955	1975	3,785,400
241-A-105	1954-1955	1963	3,785,400
241-A-106	1954-1955	1980	3,785,400
241-AX-101	1963-1964	1980	3,785,400
241-AX-102	1963-1964	1980	3,785,400
241-AX-103	1963-1964	1980	3,785,400
241-AX-104	1963-1964	1978	3,785,400
241-B-101	1943-1944	1974	1,892,700
241-B-102	1943-1944	1978	1,892,700

241-B-103	1943-1944	1977	1,892,700
241-B-104	1943-1944	1972	1,892,700
241-B-105	1943-1944	1972	1,892,700
241-B-106	1943-1944	1977	1,892,700
241-B-107	1943-1944	1969	1,892,700
241-B-108	1943-1944	1977	1,892,700
241-B-109	1943-1944	1977	1,892,700
241-B-110	1943-1944	1971	1,892,700
241-B-111	1943-1944	1976	1,892,700
241-B-112	1943-1944	1977	1,892,700
241-B-201	1943-1944	1971	208,197
241-B-202	1943-1944	1977	208,197
241-B-203	1943-1944	1977	208,197
241-B-204	1943-1944	1977	208,197
241-BX-101	1946-1947	1972	1,892,700
241-BX-102	1946-1947	1971	1,892,700
241-BX-103	1946-1947	1977	1,892,700
241-BX-104	1946-1947	1980	1,892,700
241-BX-105	1946-1947	1980	1,892,700
241-BX-106	1946-1947	1971	1,892,700
241-BX-107	1946-1947	1977	1,892,700
241-BX-108	1946-1947	1974	1,892,700
241-BX-109	1946-1947	1974	1,892,700
241-BX-110	1946-1947	1977	1,892,700
241-BX-111	1946-1947	1977	1,892,700
241-BX-112	1946-1947	1977	1,892,700
241-BY-101	1948-1949	1971	2,839,050
241-BY-102	1948-1949	1977	2,839,050
241-BY-103	1948-1949	1973	2,839,050
241-BY-104	1948-1949	1977	2,839,050
241-BY-105	1948-1949	1974	2,839,050
241-BY-106	1948-1949	1977	2,839,050
241-BY-107	1948-1949	1974	2,839,050
241-BY-108	1948-1949	1972	2,839,050
241-BY-109	1948-1949	1979	2,839,050
241-BY-110	1948-1949	1979	2,839,050
241-BY-111	1948-1949	1977	2,839,050
241-BY-112	1948-1949	1978	2,839,050
241-C-101	1943-1944	1970	1,892,700
241-C-102	1943-1944	1976	1,892,700
241-C-103	1943-1944	1979	1,892,700
241-C-104	1943-1944	1980	1,892,700
241-C-105	1943-1944	1979	1,892,700
241-C-106	1943-1944	1979	1,892,700
241-C-107	1943-1944	1978	1,892,700
241-C-108	1943-1944	1976	1,892,700
241-C-109	1943-1944	1976	1,892,700
241-C-110	1943-1944	1976	1,892,700
241-C-111	1943-1944	1978	1,892,700
241-C-112	1943-1944	1976	1,892,700
241-C-201	1943-1944	1977	208,197
241-C-202	1943-1944	1977	208,197
241-C-203	1943-1944	1977	208,197
241-C-204	1943-1944	1977	208,197
241-S-101	1950-1951	1980	2,839,050
241-S-102	1950-1951	1980	2,839,050
241-S-103	1950-1951	1980	2,839,050
241-S-104	1950-1951	1968	2,839,050
241-S-105	1950-1951	1974	2,839,050
241-S-106	1950-1951	1979	2,839,050
241-S-107	1950-1951	1980	2,839,050

241-S-107	1950-1951	1979	2,839,050
241-S-108	1950-1951	1979	2,839,050
241-S-109	1950-1951	1979	2,839,050
241-S-110	1950-1951	1979	2,839,050
241-S-111	1950-1951	1972	2,839,050
241-S-112	1950-1951	1974	2,839,050
241-SX-101	1953-1954	1980	3,785,400
241-SX-102	1953-1954	1980	3,785,400
241-SX-103	1953-1954	1980	3,785,400
241-SX-104	1953-1954	1980	3,785,400
241-SX-105	1953-1954	1980	3,785,400
241-SX-106	1953-1954	1980	3,785,400
241-SX-107	1953-1954	1964	3,785,400
241-SX-108	1953-1954	1962	3,785,400
241-SX-109	1953-1954	1965	3,785,400
241-SX-110	1953-1954	1976	3,785,400
241-SX-111	1953-1954	1974	3,785,400
241-SX-112	1953-1954	1969	3,785,400
241-SX-113	1953-1954	1958	3,785,400
241-SX-114	1953-1954	1972	3,785,400
241-SX-115	1953-1954	1965	3,785,400
241-T-101	1943-1944	1979	1,892,700
241-T-102	1943-1944	1976	1,892,700
241-T-103	1943-1944	1974	1,892,700
241-T-104	1943-1944	1974	1,892,700
241-T-105	1943-1944	1976	1,892,700
241-T-106	1943-1944	1973	1,892,700
241-T-107	1943-1944	1976	1,892,700
241-T-108	1943-1944	1974	1,892,700
241-T-109	1943-1944	1974	1,892,700
241-T-110	1943-1944	1976	1,892,700
241-T-111	1943-1944	1974	1,892,700
241-T-112	1943-1944	1977	1,892,700
241-T-201	1943-1944	1976	208,197
241-T-202	1943-1944	1976	208,197
241-T-203	1943-1944	1976	208,197
241-T-204	1943-1944	1976	208,197
241-TX-101	1947-1948	1980	2,839,050
241-TX-102	1947-1948	1977	2,839,050
241-TX-103	1947-1948	1980	2,839,050
241-TX-104	1947-1948	1977	2,839,050
241-TX-105	1947-1948	1977	2,839,050
241-TX-106	1947-1948	1977	2,839,050
241-TX-107	1947-1948	1977	2,839,050
241-TX-108	1947-1948	1977	2,839,050
241-TX-109	1947-1948	1977	2,839,050
241-TX-110	1947-1948	1977	2,839,050
241-TX-111	1947-1948	1977	2,839,050
241-TX-112	1947-1948	1974	2,839,050
241-TX-113	1947-1948	1971	2,839,050
241-TX-114	1947-1948	1971	2,839,050
241-TX-115	1947-1948	1977	2,839,050
241-TX-116	1947-1948	1969	2,839,050
241-TX-117	1947-1948	1969	2,839,050
241-TX-118	1947-1948	1980	2,839,050
241-TY-101	1951-1952	1973	2,839,050
241-TY-102	1951-1952	1979	2,839,050
241-TY-103	1951-1952	1973	2,839,050
241-TY-104	1951-1952	1974	2,839,050
241-TY-105	1951-1952	1980	2,839,050
241-TY-106	1951-1952	1959	2,839,050

241-U-101	1943-1944	1960	1,892,700
241-U-102	1943-1944	1979	1,892,700
241-U-103	1943-1944	1978	1,892,700
241-U-104	1943-1944	1951	1,892,700
241-U-105	1943-1944	1978	1,892,700
241-U-106	1943-1944	1977	1,892,700
241-U-107	1943-1944	1980	1,892,700
241-U-108	1943-1944	1979	1,892,700
241-U-109	1943-1944	1978	1,892,700
241-U-110	1943-1944	1975	1,892,700
241-U-111	1943-1944	1980	1,892,700
241-U-112	1943-1944	1970	1,892,700
241-U-201	1943-1944	1977	208,197
241-U-202	1943-1944	1977	208,197
241-U-203	1943-1944	1977	208,197
241-U-204	1943-1944	1977	208,197

Waste Transfer Vaults

Tank Number	Year of Construction	Year Removed from Service ¹	Operating Capacity (Liters)
244-AR-001	1976	NA	162,772
244-AR-002	1976	NA	162,772
244-AR-003	1976	NA	18,113
244-AR-004	1976	NA	18,113
244-CR-003	1946	NA	55,494
244-CR-011	1946	NA	170,343

¹The last year the tank was capable of receiving waste; actual date of last waste receipt might have been earlier.

Table 2 - Single Shell Tank System Diversion Box Matrix

Unit	SSTs	Diversion box	Construction date
A	241-A-101 through 241-A-106 241-AX-101 through 241-AX-104	241-A-152	1955
		241-A-153	1966
		241-AX-151	1963
		241-AX-152	1962
		241-AX-155	1983
		241-AY-151	1975
		241-AY-152	1970
B	241-B-101 through 241-B-112 241-B-201 through 241-B-204 241-BX-101 through 241-BX-112	241-B-151	1951
		241-B-152	1951
		241-B-153	1951
		241-B-154	1951
		241-B-252	1951
		241-BR-152	1952
		241-BX-153	1951
		241-BX-154	1951
		241-BX-155	1951
		241-BXR-151	1952
		241-BXR-152	1952
		241-BXR-153	1952
		241-BYR-152	1952
		241-BYR-153	1952

		241-BYR-154	1952
C	241-C-101 through 241-C-112	241-C-151	1951
	241-C-201 through 241-C-204	241-C-152	1951
		241-C-153	1951
		241-C-154	1965
		241-C-252	1951
		241-CR-151	1952
		241-CR-152	1952
		241-CR-153	1952
S	241-S-101 through 241-S-152	240-S-151	1952
	241-SX-101 through 241-SX-115	240-S-152	1952
		241-S-152	1975
		241-SX-151	1953
		241-SX-152	1957
T	241-T-101 through 241-T-112	241-T-151	1950
	241-T-201 through 241-T-204	241-T-152	1951
	241-TX-101 through 241-TX-118	241-T-153	1951
	241-TY-101 through 241-TY-106	241-T-252	1951
		242-T-151	1951
		241-TR-152	1951
		241-TR-153	1952
		241-TX-153	1951
		241-TX-155	1951
		241-TXR-151	1951
		241-TXR-152	1952
		241-TXR-153	1952
		241-TY-153	1952
U	241-U-101 through 241-U-112	241-U-153	1951
	241-U-201 through 241-U-204	241-U-252	1951
		241-UR-151	1951
		241-UR-152	1952
		241-UR-153	1952
		241-UR-154	1952

IV. DESCRIPTION OF DANGEROUS WASTES

A. DANGEROUS WASTE NUMBER - Enter the four digit number from Chapter 173-303 WAC for each listed dangerous waste you will handle. If you handle dangerous wastes which are not listed in Chapter 173-303 WAC, enter the four digit number(s) that describe the characteristics and/or the toxic contaminants of those dangerous wastes.

B. ESTIMATED ANNUAL QUANTITY - For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE - For each quantity entered in column B enter the unit of measure code. Units of measuer which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE CODE		METRIC UNIT OF MEASURE CODE	
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES**1. PROCESS CODES:**

For listed dangerous waste: For each listed dangerous waste entered in column A select the code(s) from the list of process codes contained in Section III to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non-listed dangerous wastes: For each characteristic or toxic contaminant entered in Column A, select the code(s) from the list of process codes contained in Section III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed dangerous wastes that possess that characteristic or toxic contaminant.

Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: DANGEROUS WASTES DESCRIBED BY MORE THAN ONE DANGEROUS WASTE NUMBER - Dangerous wastes that can be described by more than one Waste Number shall be described on the form as follows:

- Select one of the Dangerous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
- In column A of the next line enter the other Dangerous Waste Number that can be used to describe the waste. In column D(2) on that line enter "Included with above" and make no other entries on that line.
- Repeat step 2 for each other Dangerous Waste Number that can be used to describe the dangerous waste.

EXAMPLE FOR COMPLETING SECTION IV (shown in line numbers X-1, X-2, X-3, and X-4 below) - A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. DANGEROUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES			
				1. PROCESS CODES (enter)		2. PROCESS DESCRIPTION (if a code is not entered in D(1))	
X-1	K054	900	P	T03	D80		
X-2	D002	400	P	T03	D80		
X-3	D001	100	P	T03	D80		
X-4	D002			T03	D80		included with above
1	D001	204,116,566	K	S02	T01		Storage-Tank/Treatment-Tank
2	D002		↓	↓	↓		↓
3	D003		↓	↓	↓		↓
4	D004		↓	↓	↓		↓
5	D005		↓	↓	↓		↓
6	D006		↓	↓	↓		↓
7	D007		↓	↓	↓		↓
8	D008		↓	↓	↓		↓
9	D009		↓	↓	↓		↓
10	D010		↓	↓	↓		↓

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM SECTION D(1) ON PAGE 3.

The mixed waste stored in the SST System was generated by four major chemical reprocessing operations: the bismuth phosphate (BiPo) process, the reduction-oxidation (REDOX) process, the plutonium-uranium extraction (PUREX) process, and the tributyl phosphate (TBP) process.

The dangerous waste numbers listed under the description of dangerous waste are based on a computer model and past process knowledge rather than on chemical analysis of waste. The Estimated Annual Quantity of Dangerous Waste (section IV.B.) listed is 204,116,556 kilograms (450,000,000 pounds) and is based on an average density of the waste calculated from the densities of 26 core samples taken of waste stored in the various SSTs. The average density (1.4 kilograms/liter [12 pounds/gallon]) was multiplied by 139,440,000 liters (36,836,000 gallons) and rounded-up to 204,116,556 kilograms (450,000,000 pounds). The figure 139,440,000 liters (36,836,000 gallons) represents the estimated volume of liquid mixed waste remaining in the SST System.

The quantity of waste lead stored in the diversion boxes is based on previous research of historical records. Because of the radiological hazards associated with individual inspection of the diversion boxes, a quantity of 23 kilograms (50 pounds) of waste lead was estimated for each box. This represents a conservative estimate, as 23 kilograms (50 pounds) is the maximum quantity of waste lead known to be in any one diversion box.

LATITUDE (<i>degrees, minutes, & seconds</i>)						LONGITUDE (<i>degrees, minutes, & seconds</i>)						

VIII. FACILITY OWNER			
<input checked="" type="checkbox"/> A. If the facility owner is also the facility operator as listed in Section VII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.			
<input type="checkbox"/> B. If the facility owner is not the facility operator as listed in Section VII on Form 1, complete the following items:			
1. NAME OF FACILITY'S LEGAL OWNER			2. PHONE NO. (area code & no.)
3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
IX. OWNER CERTIFICATION			
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.			
NAME (print or type)	SIGNATURE	DATE SIGNED	
Keith A. Klein, Manager U. S. Department of Energy	L. L. Piper for	12/21/1999	
X. OPERATOR CERTIFICATION			
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.			
NAME (print or type)	SIGNATURE	DATE SIGNED	
SEE ATTACHMENT			

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

L. L. Piper for
Owner/Operator
Keith A. Klein, Manager
U.S. Department of Energy

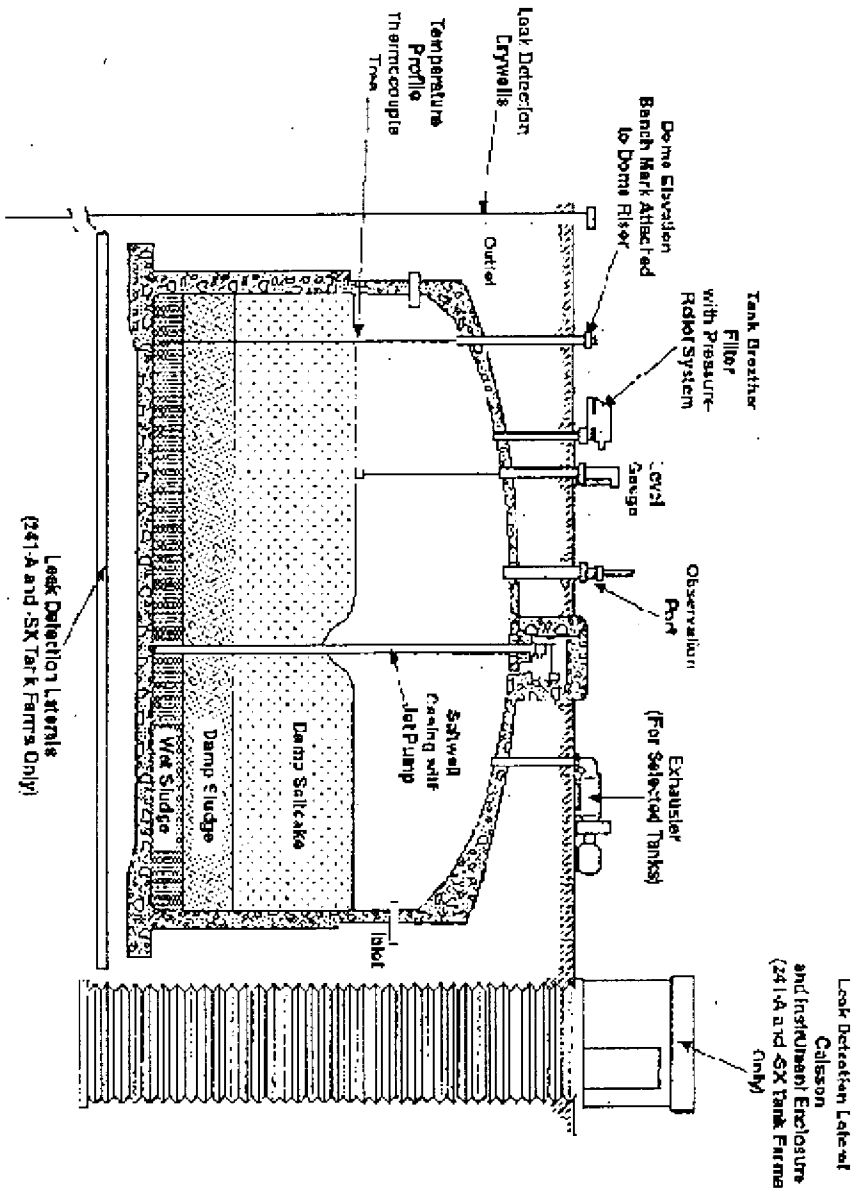
12/21/99
Date

M. P. DeLozier
Co-Operator
M. P. DeLozier
President and RPP General Manager
CH2M HILL Hanford Group, Inc.*

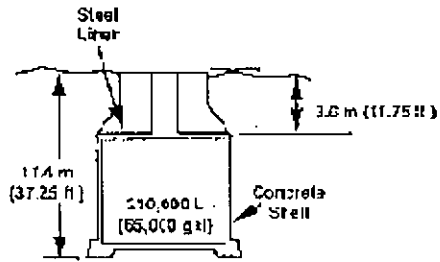
12/22/99
Date

*Co-operator under Department of Energy Office of River Protection Contract #DE-AC06-99L14047.

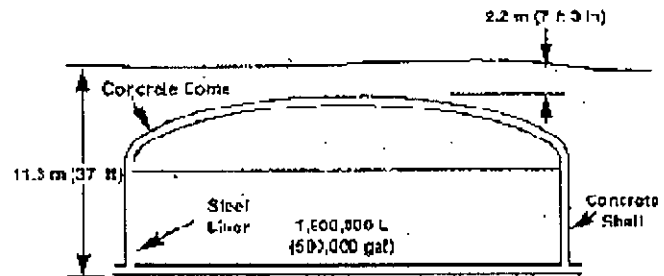
Typical Single-Shell Tank



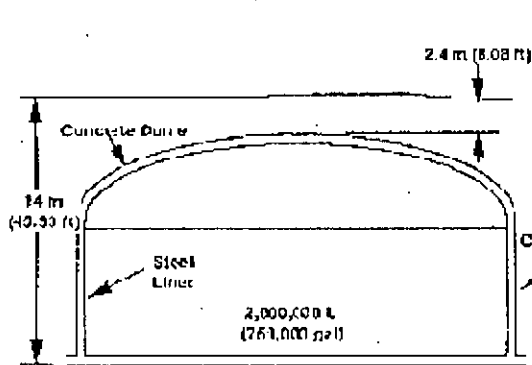
Cross-Sectional Views of Single-Shell Tanks



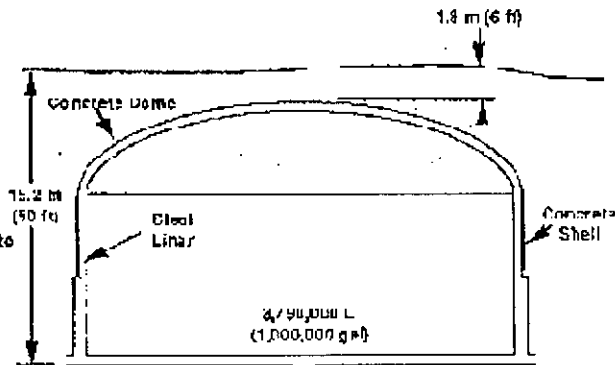
6 m (20 ft) Diameter Single-Shell Tank



22.9 m (75 ft) Diameter Single-Shell Tank



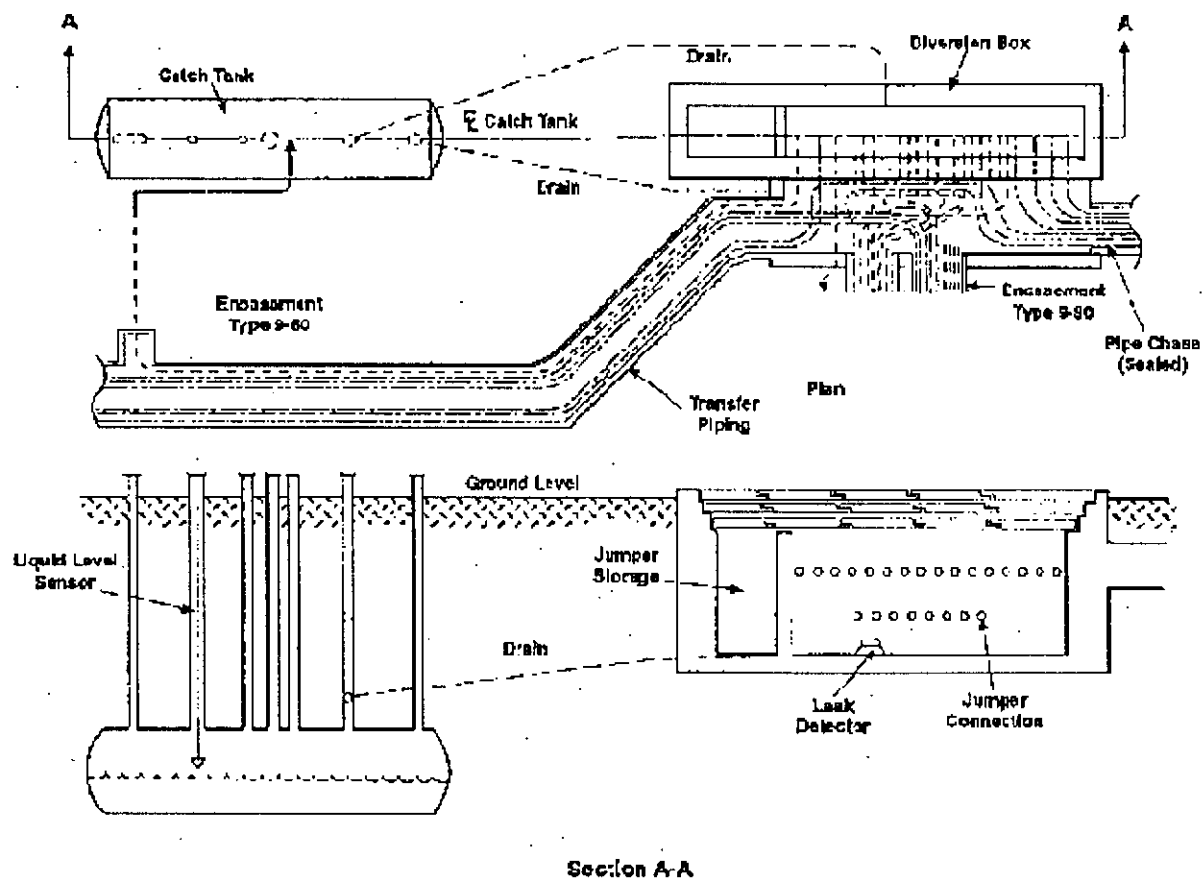
22.6 m (74 ft) Diameter Single-Shell Tank



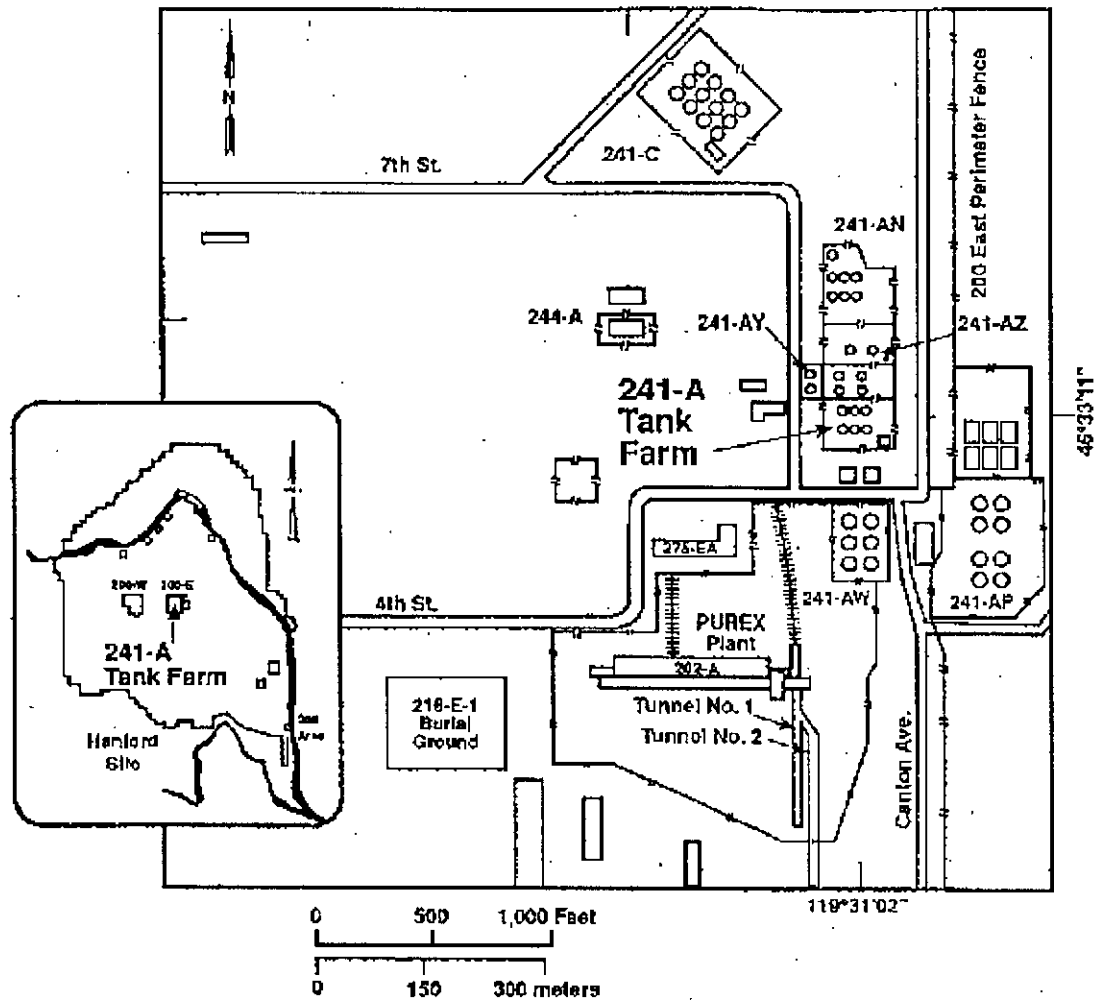
22.9 m (75 ft) Diameter Single-Shell Tank

NOTE: To convert metric values to U.S. units:
To convert inches to centimeters, multiply by 2.54.
To convert gallons to liters, multiply by 3.785.

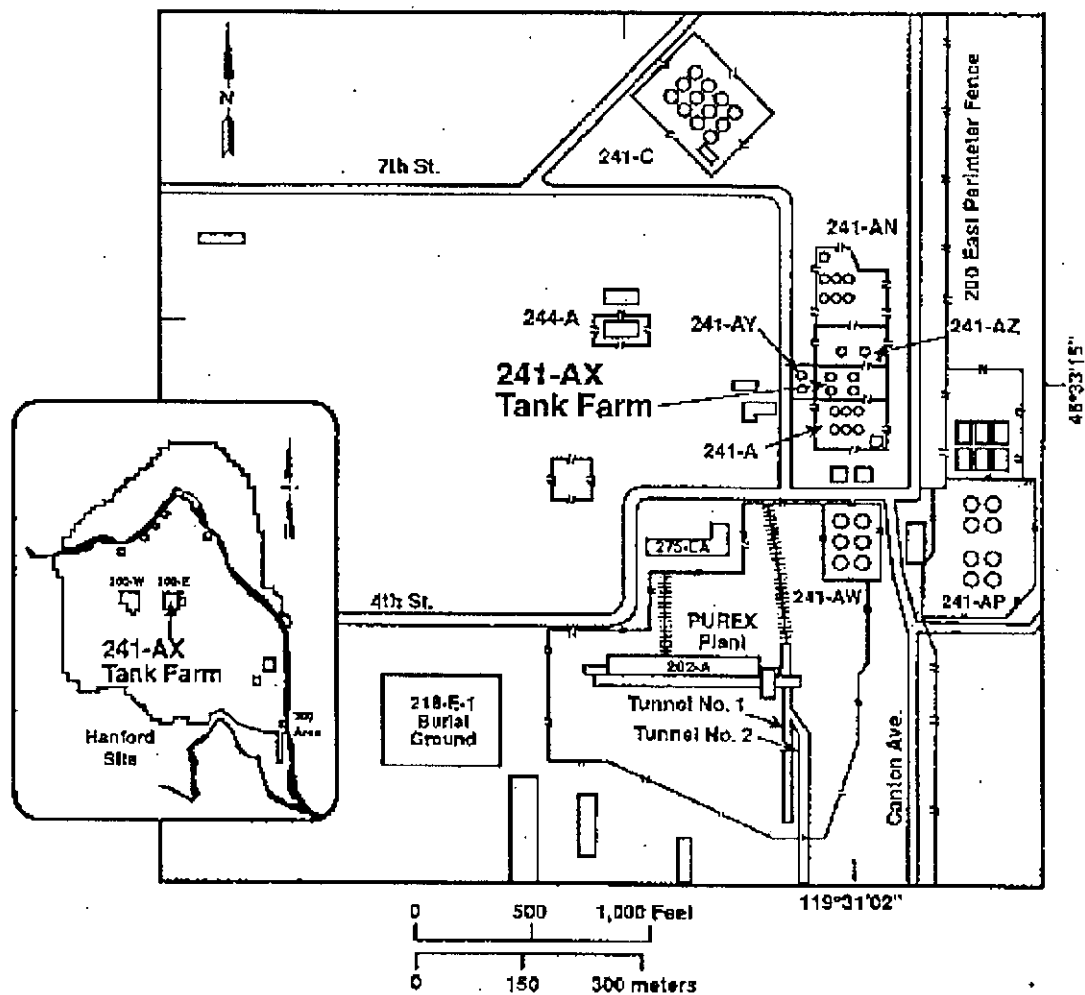
Typical Transfer System



241-A Single-Shell Tank Farm Site Plan

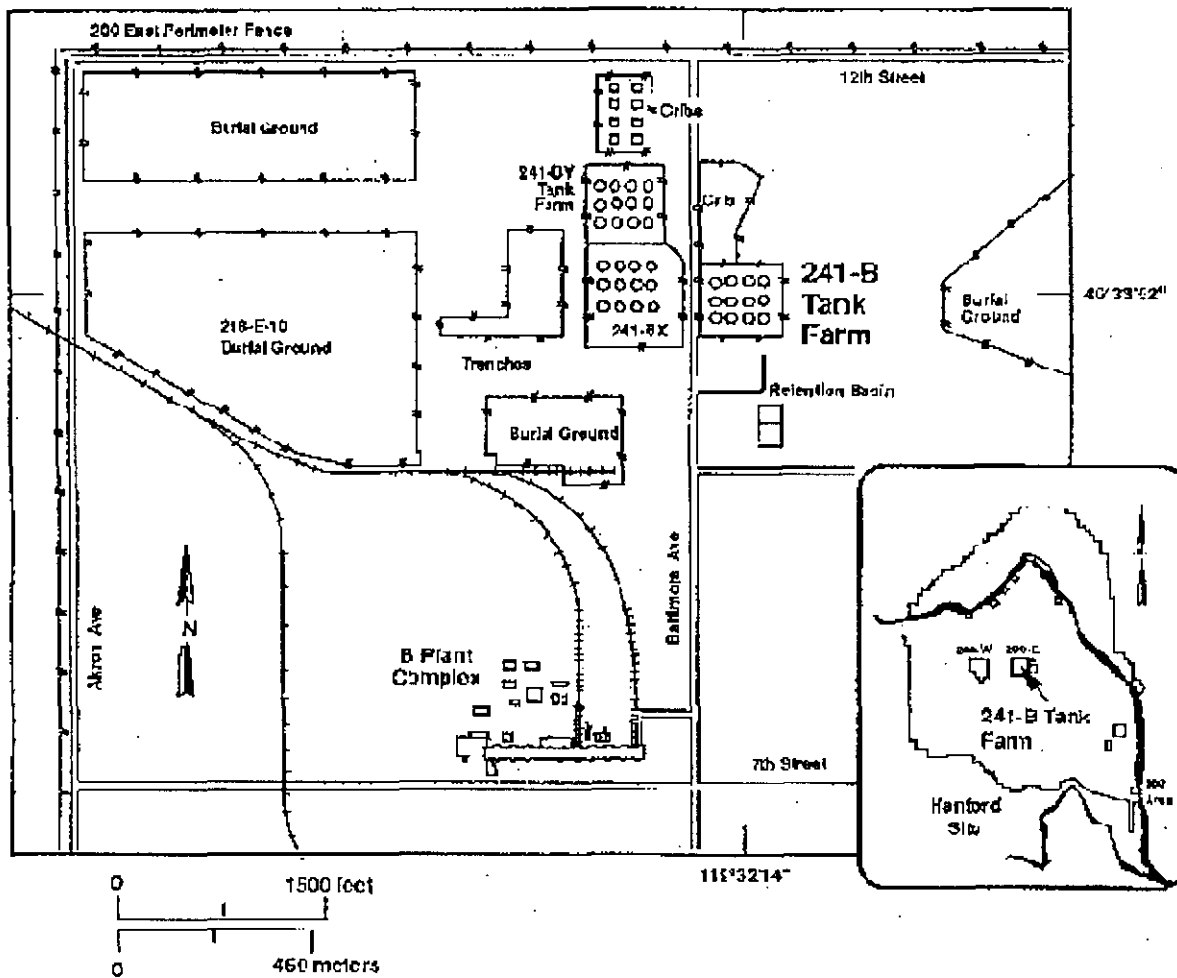


241-AX Single-Shell Tank Farm Site Plan

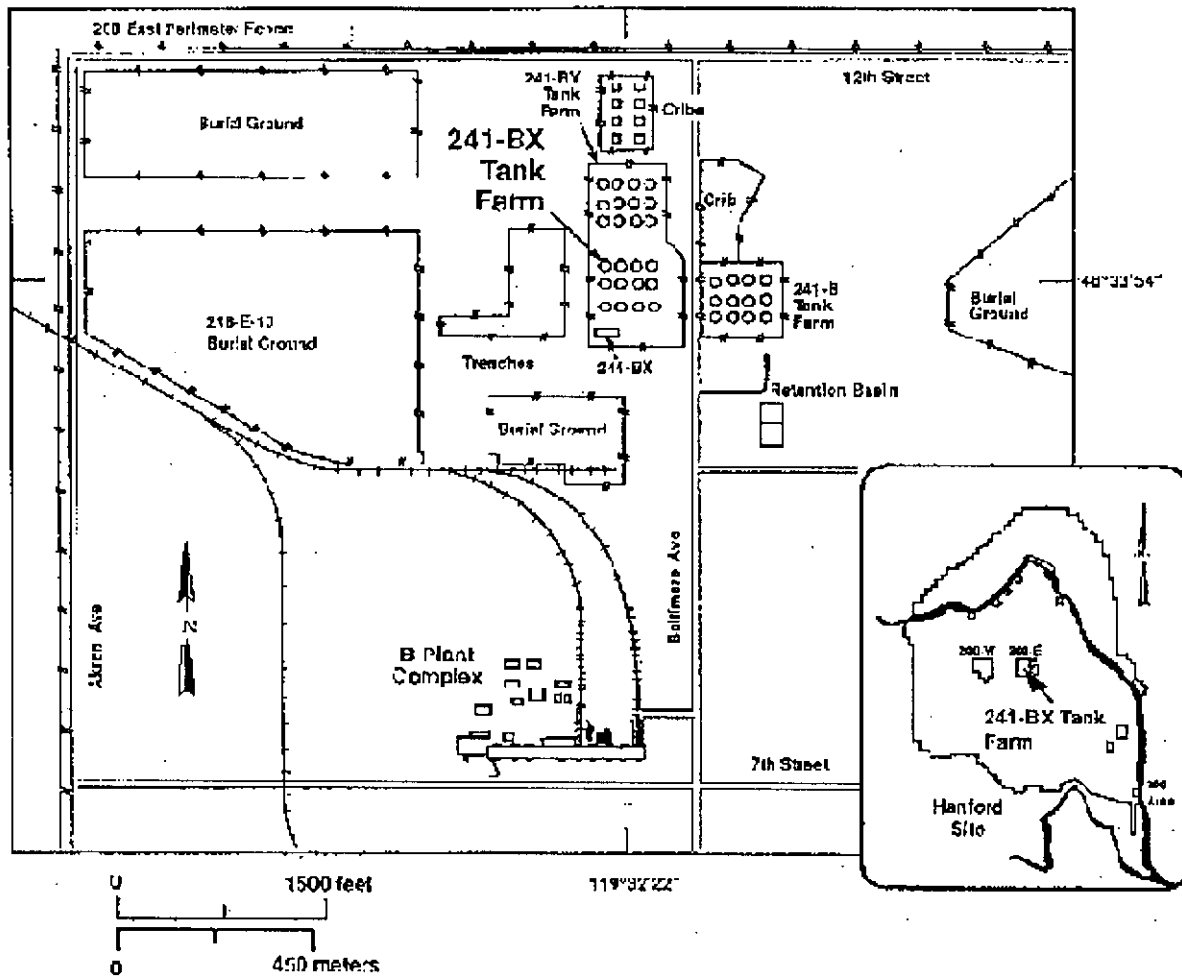


H96070161.35b

241-B Single-Shell Tank Farm Site Plan

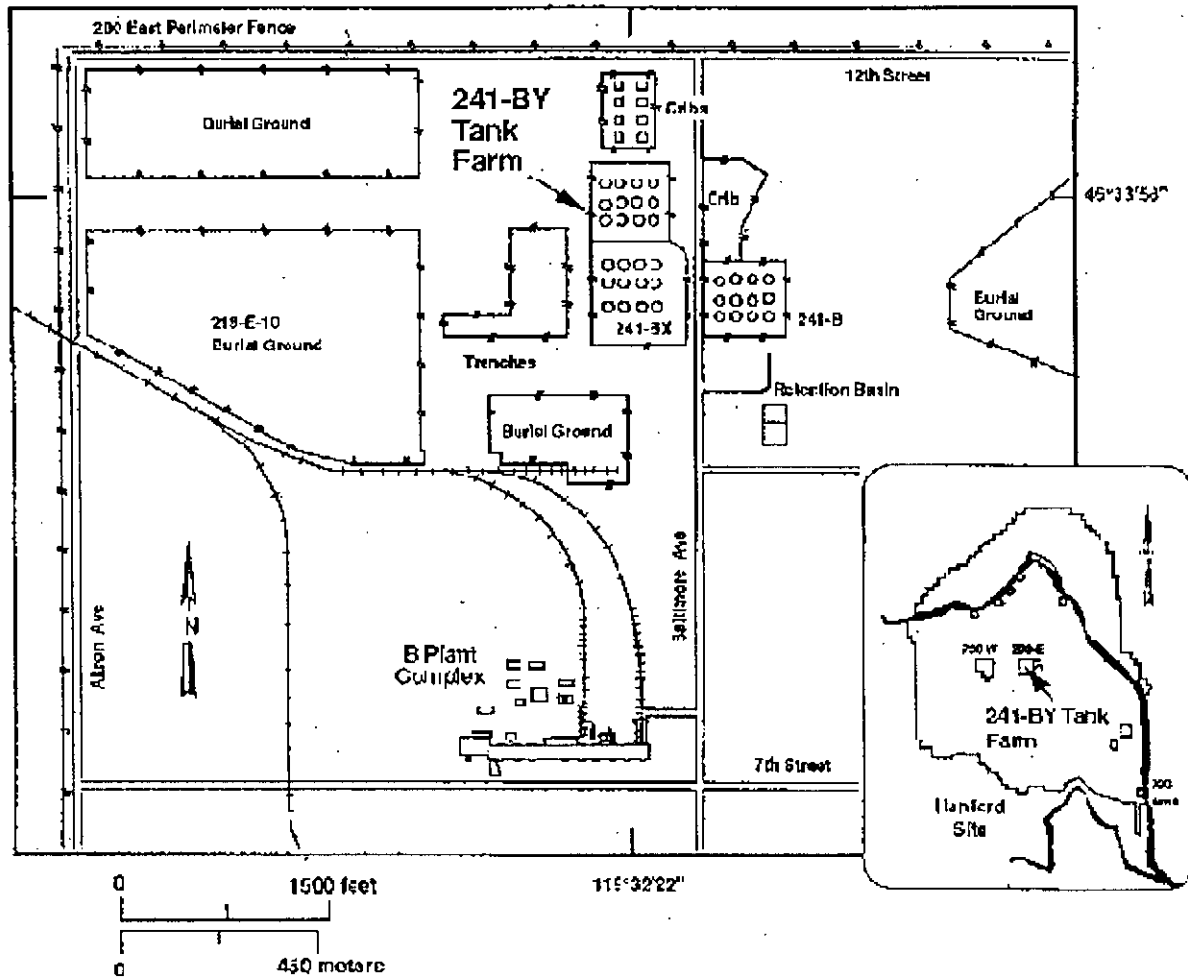


241-BX Single-Shell Tank Farm Site Plan



H96070161.41c

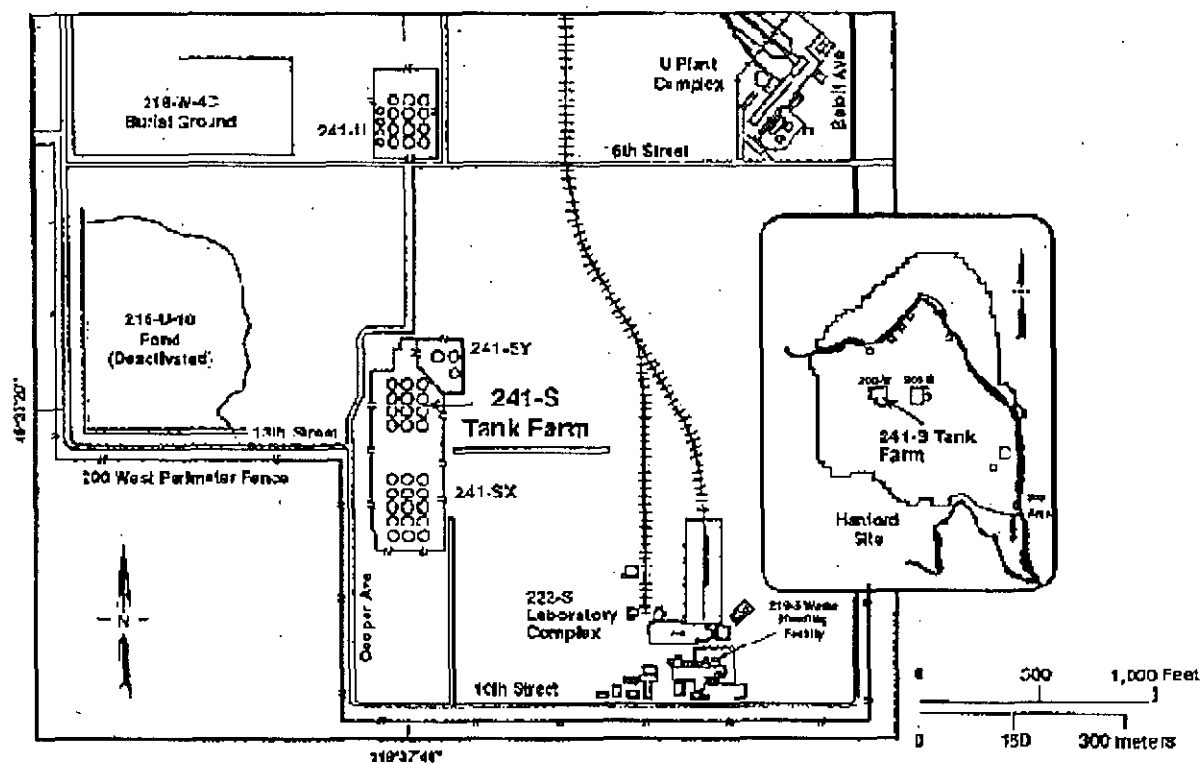
241-BY Single-Shell Tank Farm Site Plan



H96070161.41a

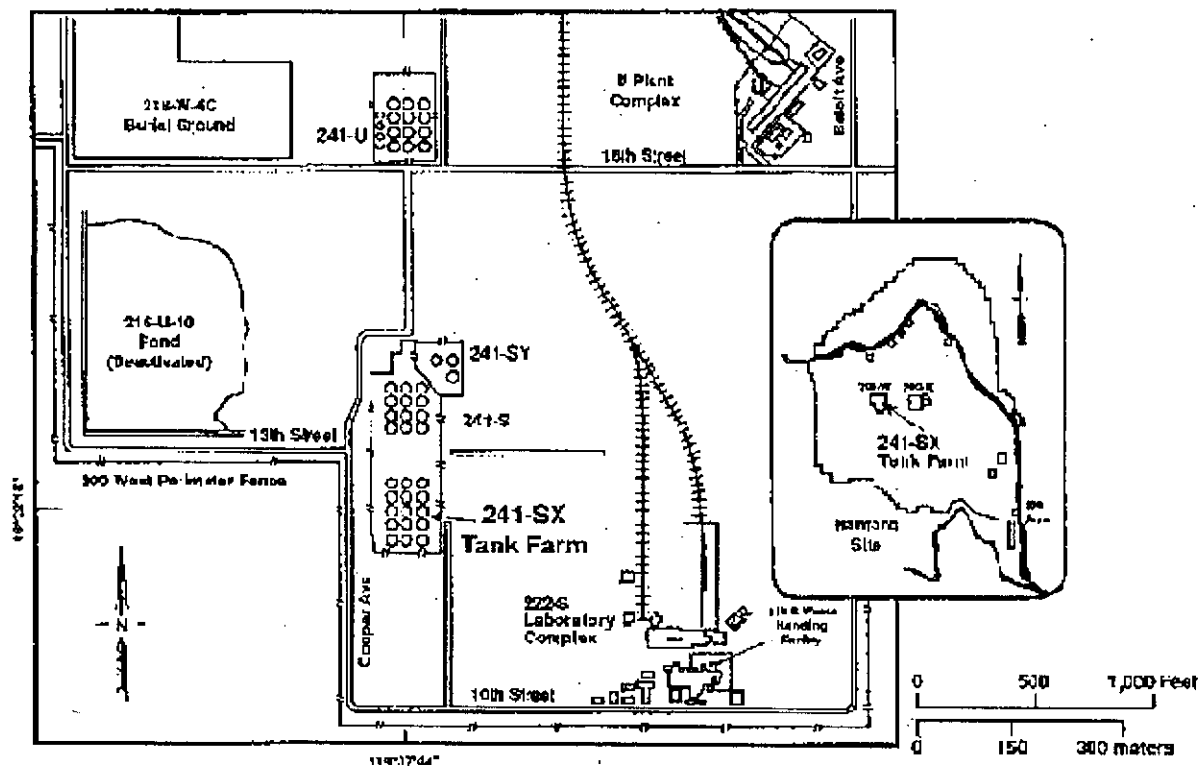
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241-S Single-Shell Tank Farm Site Plan



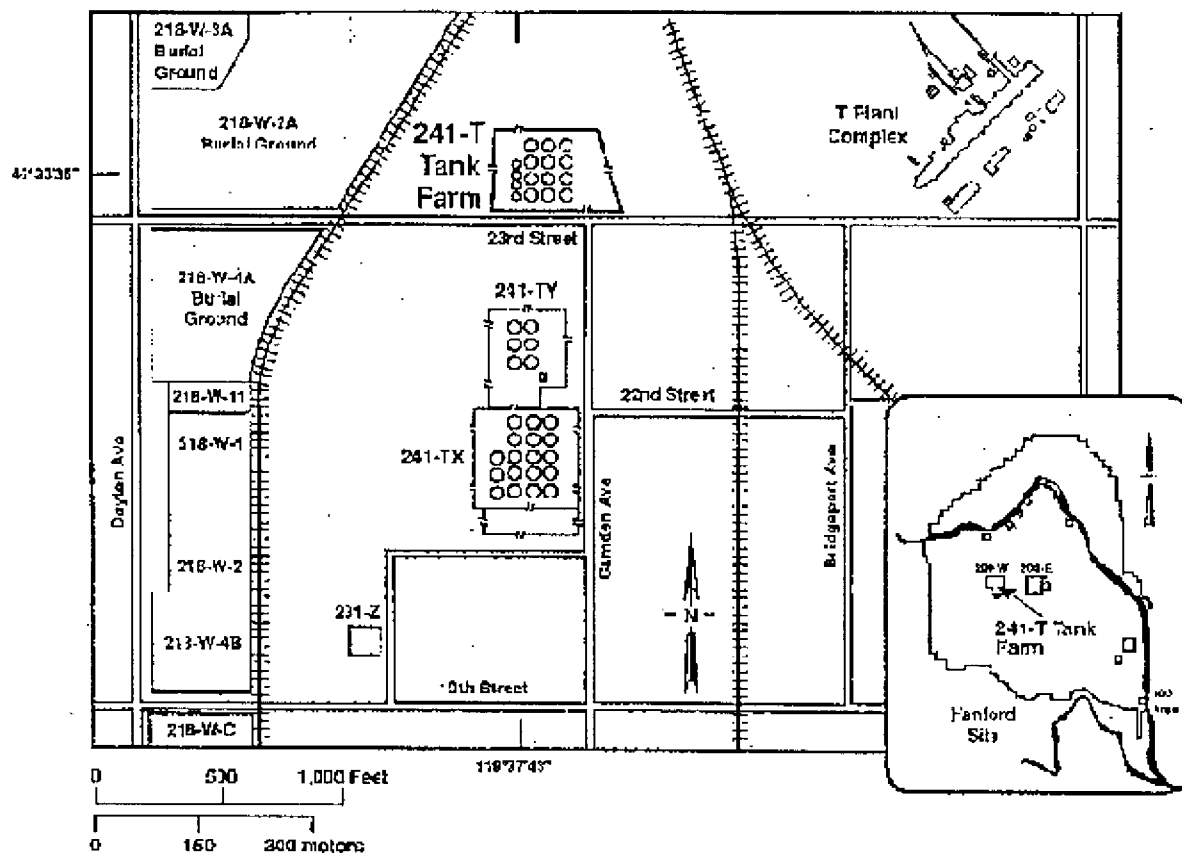
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241-SX Single-Shell Tank Farm Site Plan



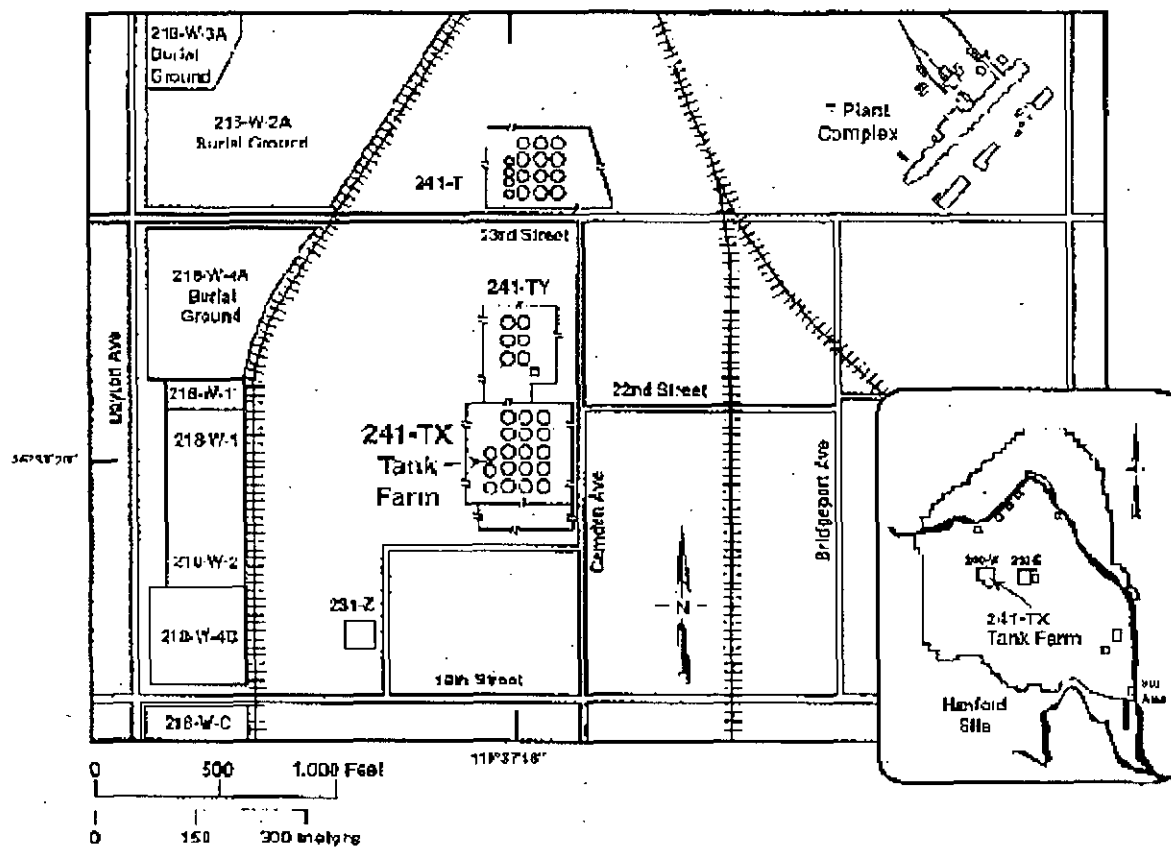
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241-T Single-Shell Tank Farm Site Plan



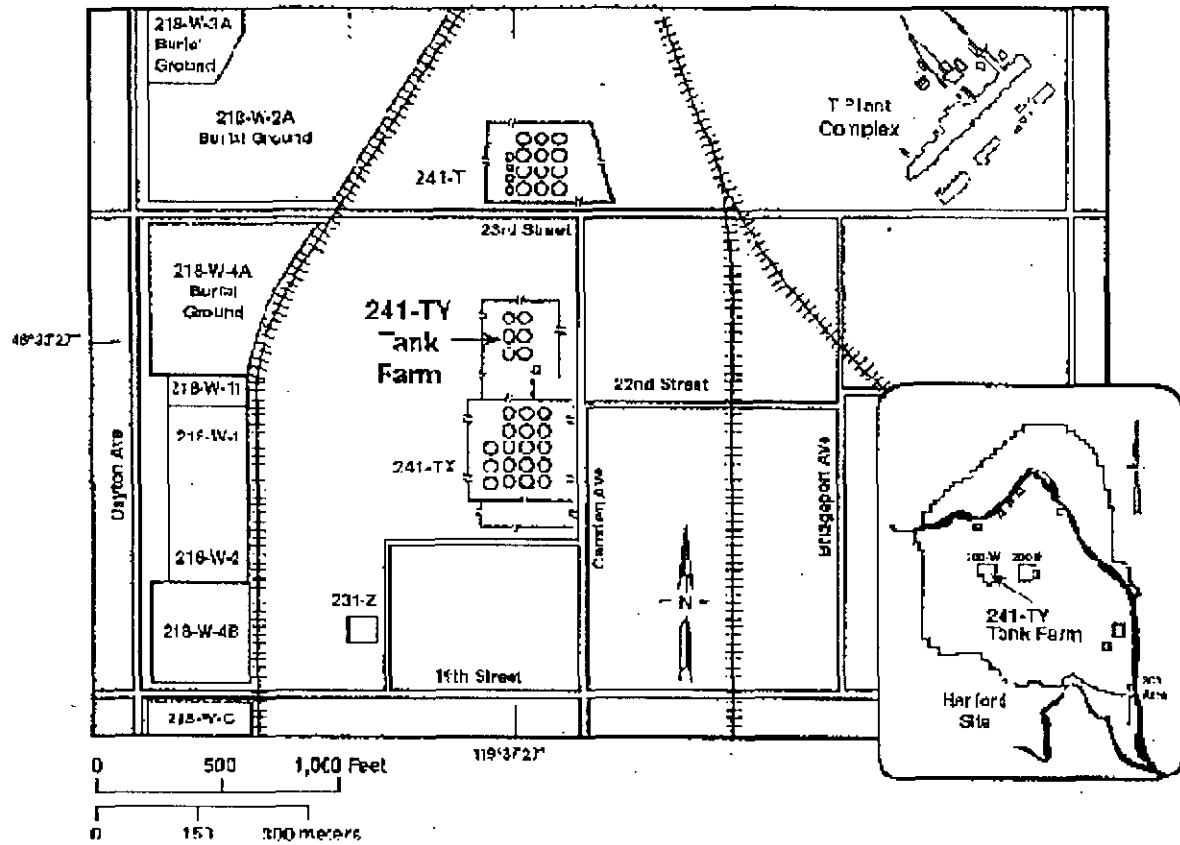
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241-TX Single-Shell Tank Farm Site Plan



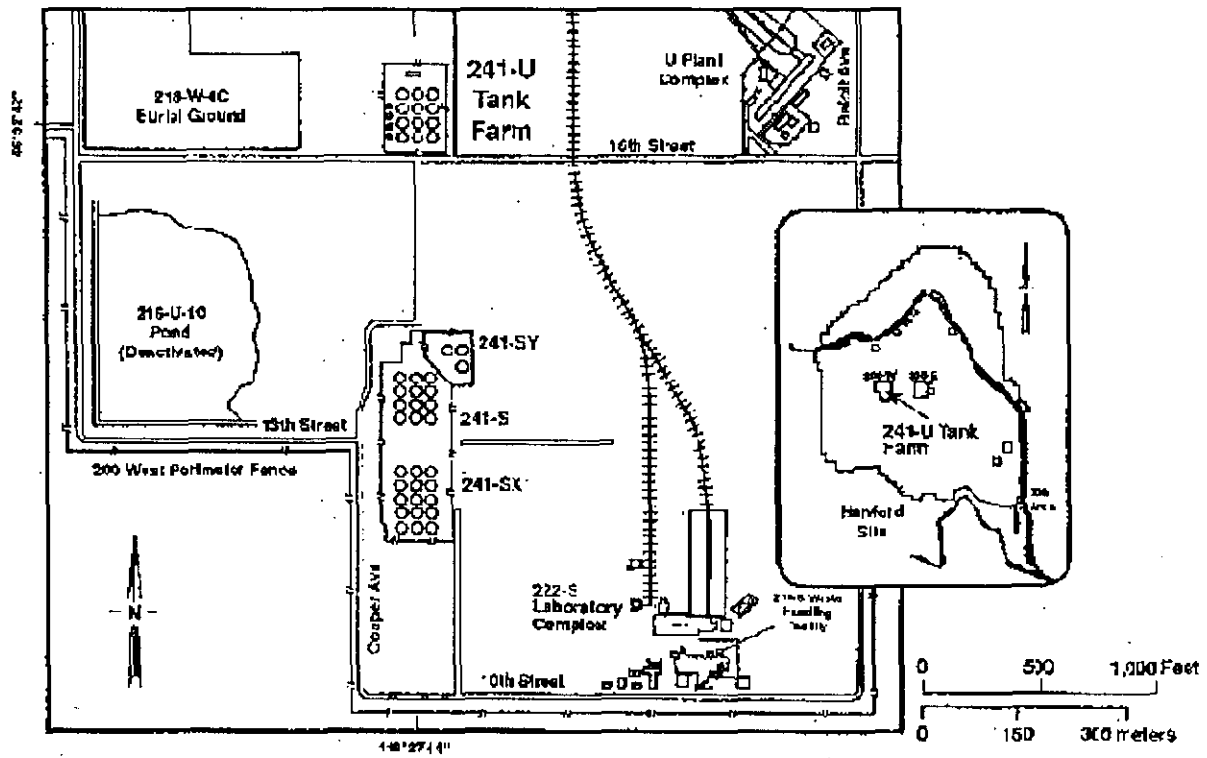
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241-TY Single-Shell Tank Farm Site Plan



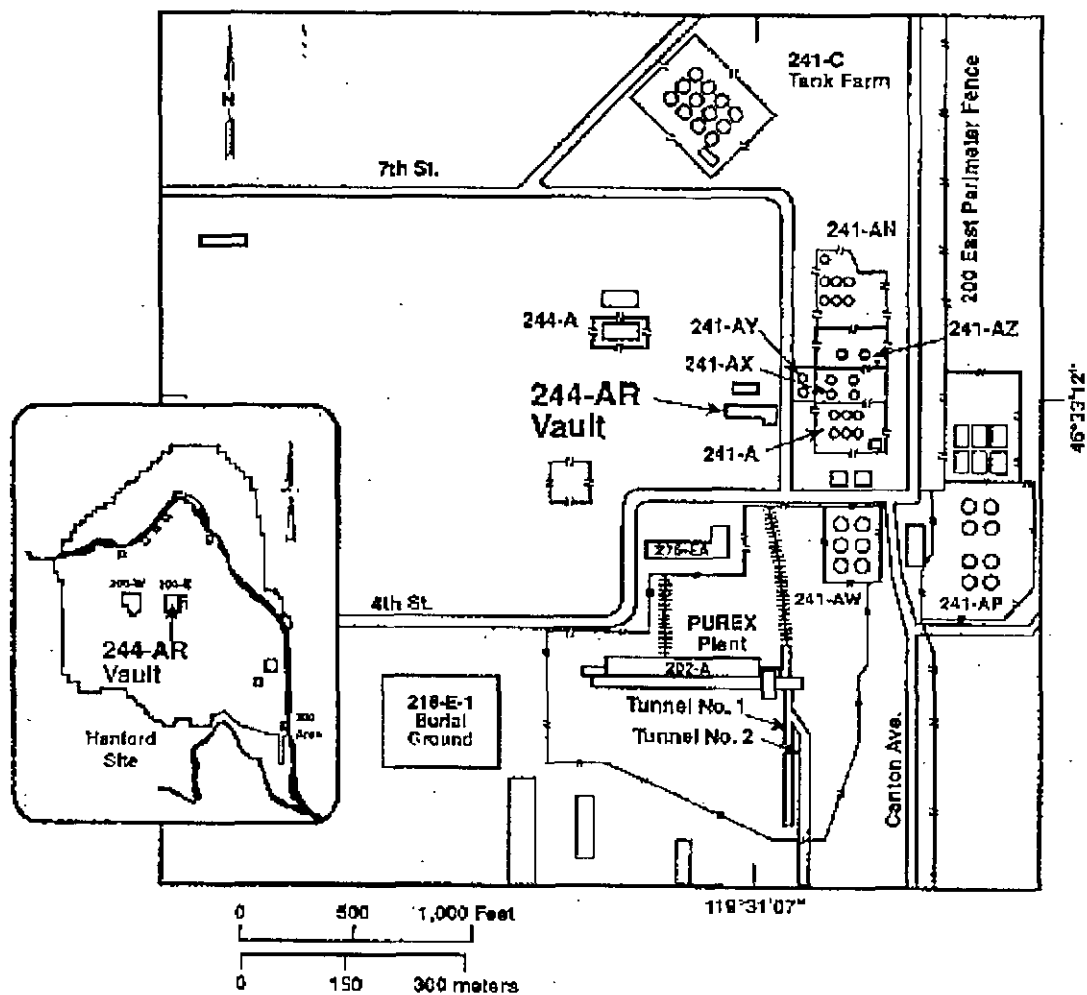
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241-U Single-Shell Tank Farm Site Plan



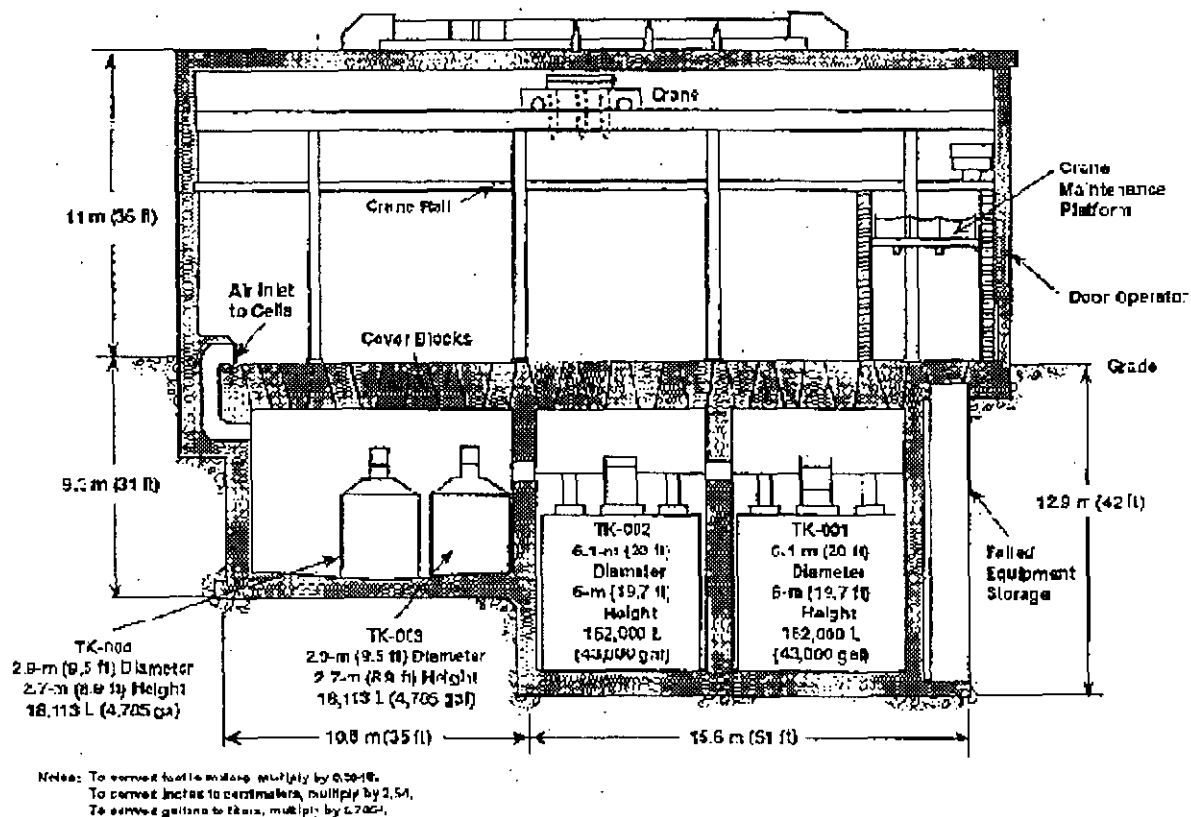
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244-AR Vault Site Plan



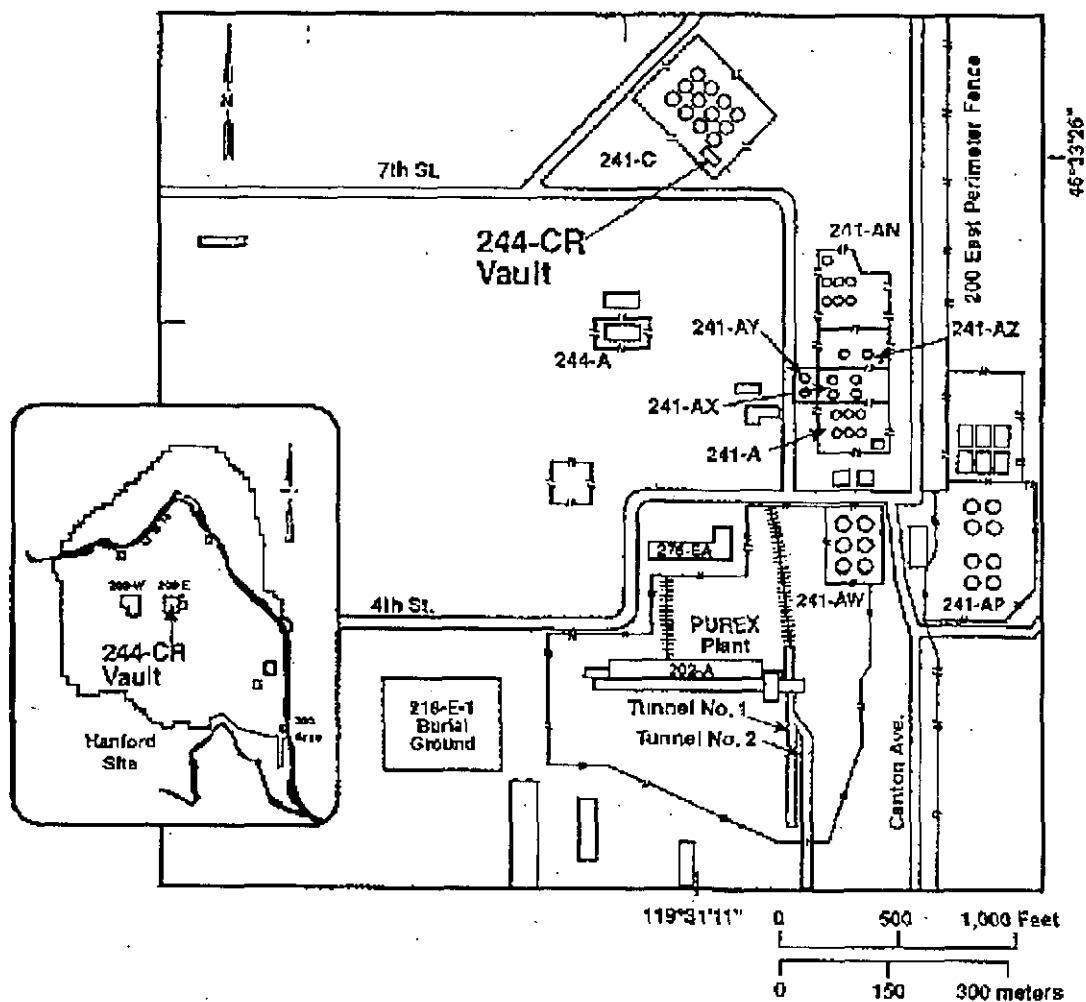
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244-AR Vault



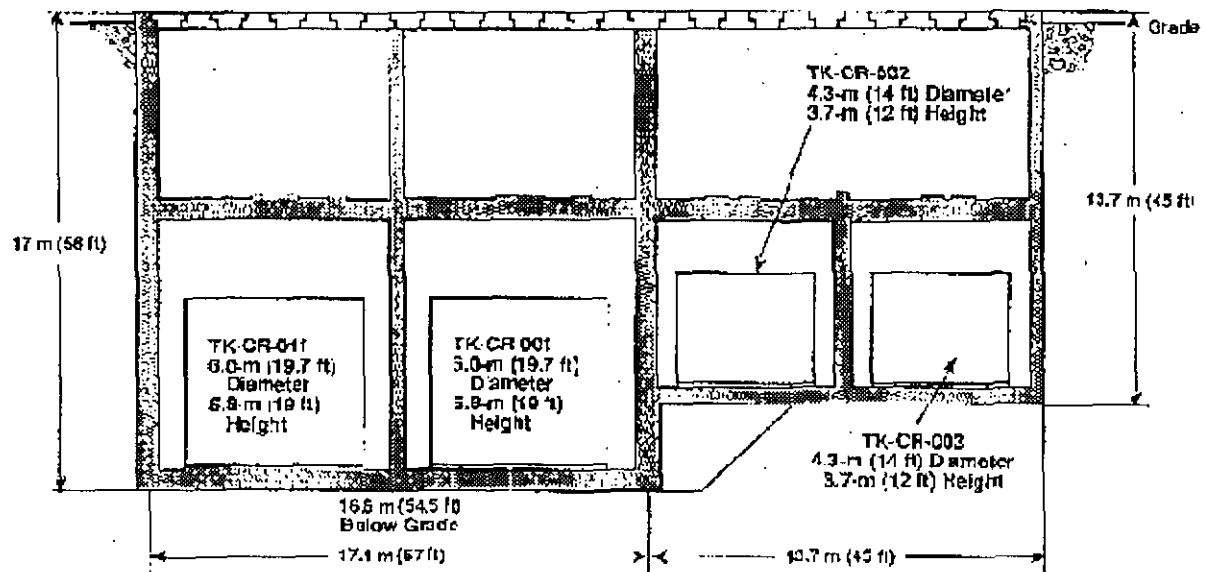
39208044.23

244-CR Vault Site Plan



H96070161.35e

244-CR Vault



Notes: To convert feet to meters, multiply by 0.3048.
To convert inches to centimeters, multiply by 2.54.

39208044.22

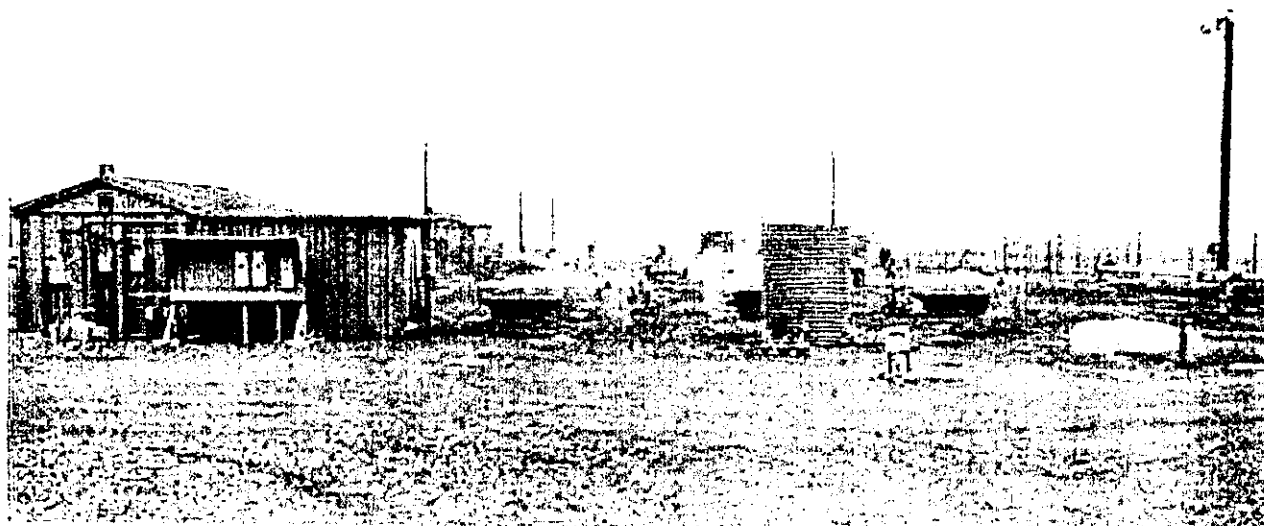
241-A SINGLE-SHELL TANK FARMS



46°33'11"
119°31'02"

8800284-1CN
(PHOTO TAKEN 1988)

241-AX SINGLE-SHELL TANK FARM



46°33'15"
119°31'02"

8800284-2CN
(PHOTO TAKEN 1988)

241-AX SINGLE-SHELL TANK FARM



46°33'15"
119°31'02"

8800284-3CN
(PHOTO TAKEN 1988)

241-B SINGLE-SHELL TANK FARM

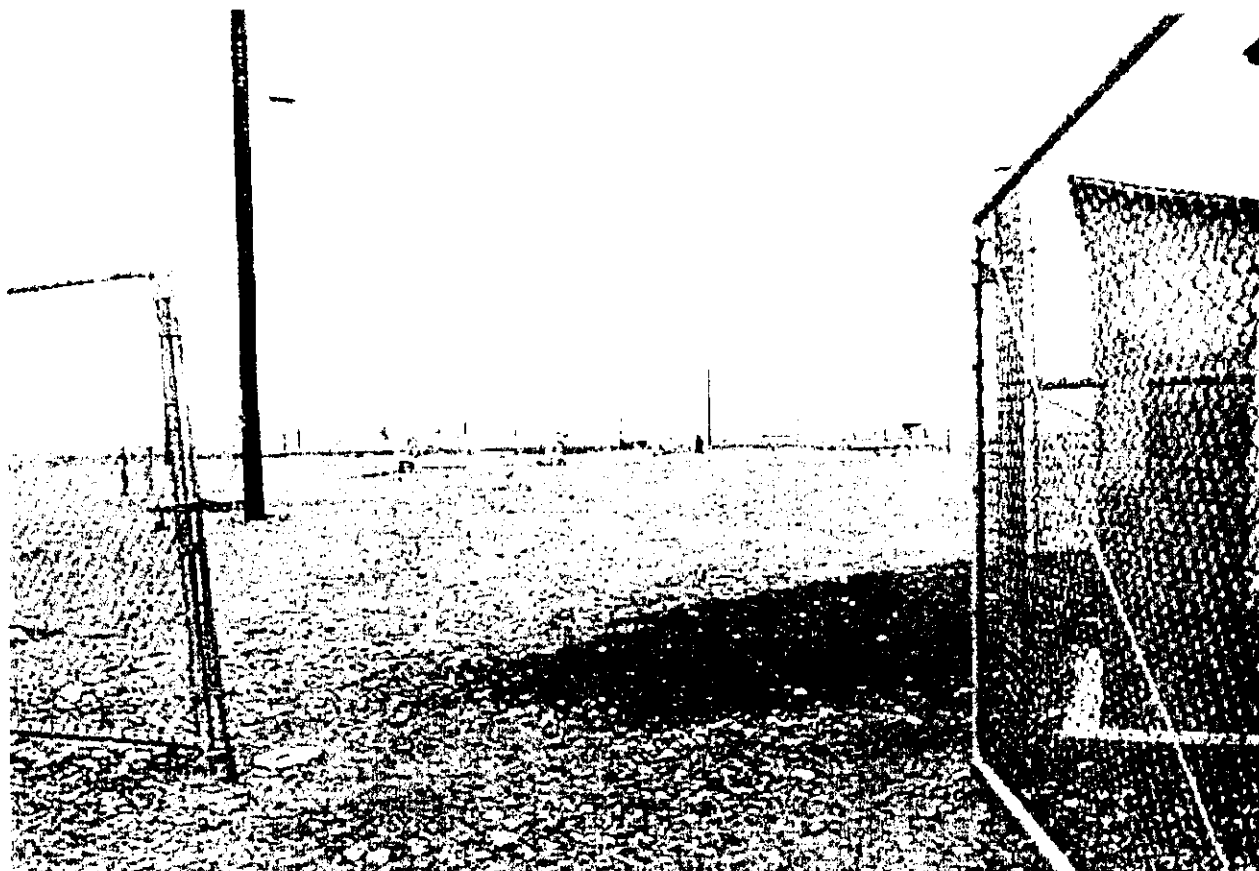


46°33'52"

119°32'14"

8800284-6CN
(PHOTO TAKEN 1988)

241-BX SINGLE-SHELL TANK FARM

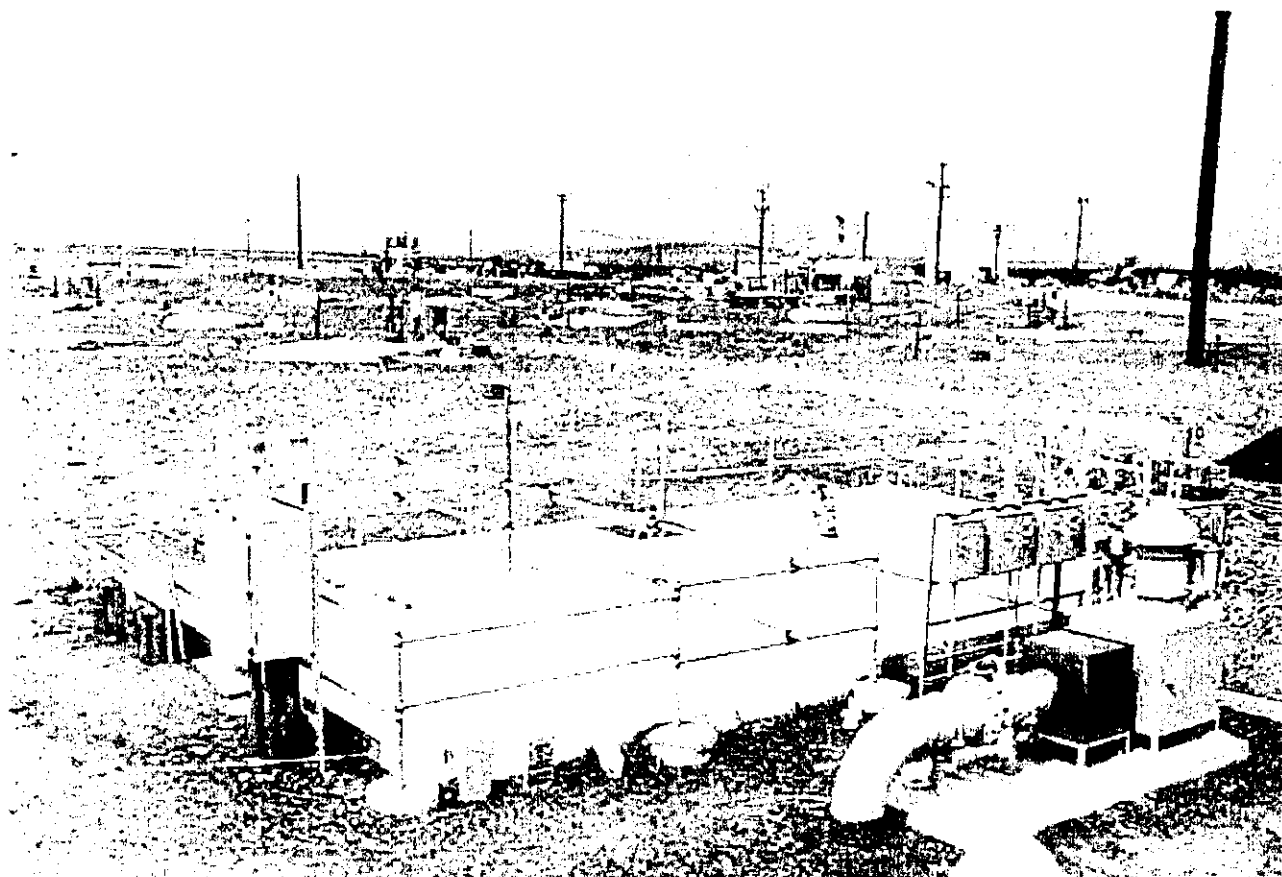


46°33'54"

119°32'22"

8800284-7CN
(PHOTO TAKEN 1988)

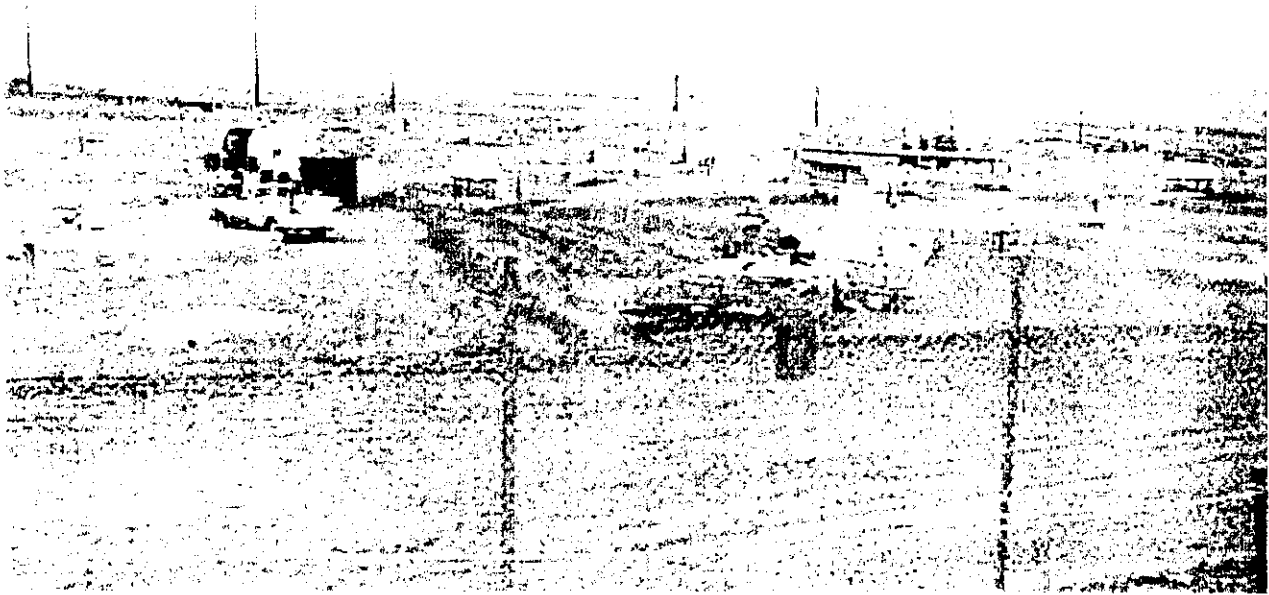
241-BY SINGLE-SHELL TANK FARM



46°33'58"
119°32'22"

96080579-27CN
(PHOTO TAKEN 1996)

241-C SINGLE-SHELL TANK FARM



46°33'27"
119°31'12"

8800284-5CN
(PHOTO TAKEN 1988)

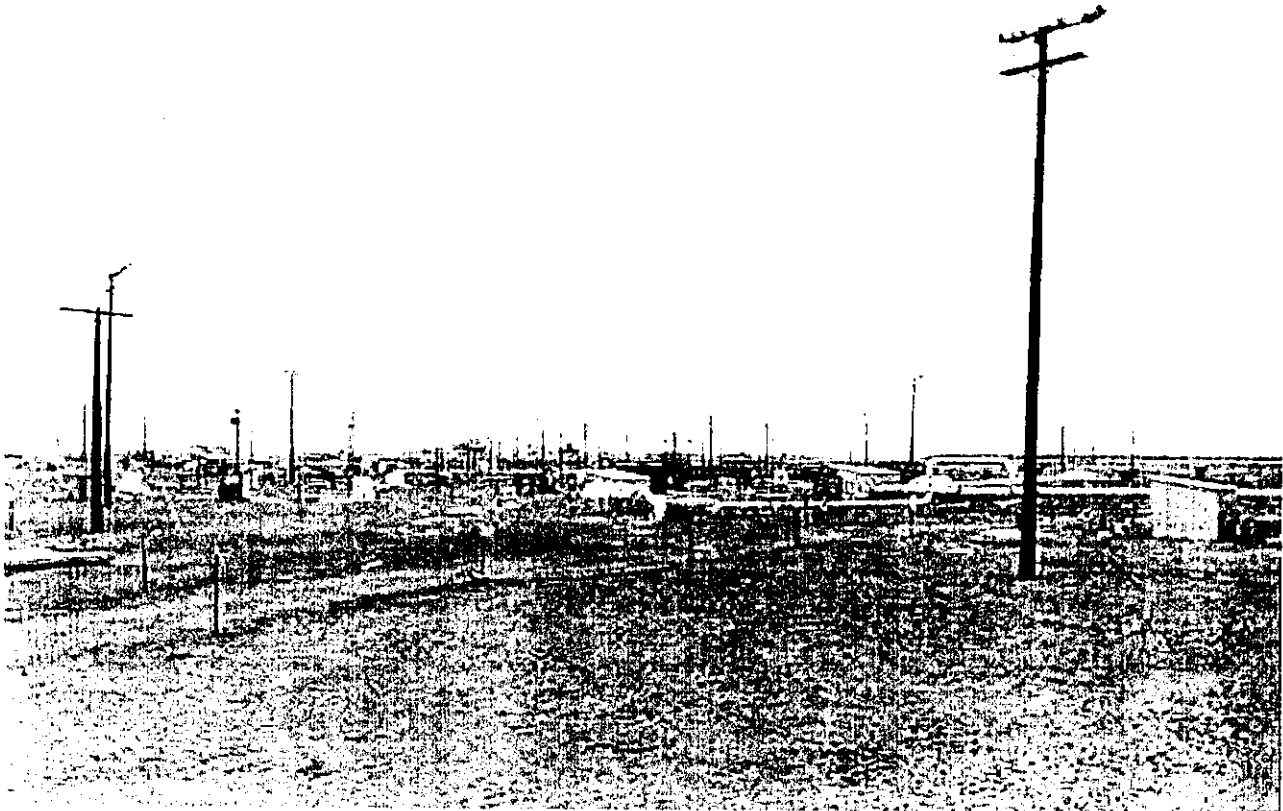
241-S SINGLE-SHELL TANK FARM



46°33'20"
119°37'44"

96080579-3CN
(PHOTO TAKEN 1996)

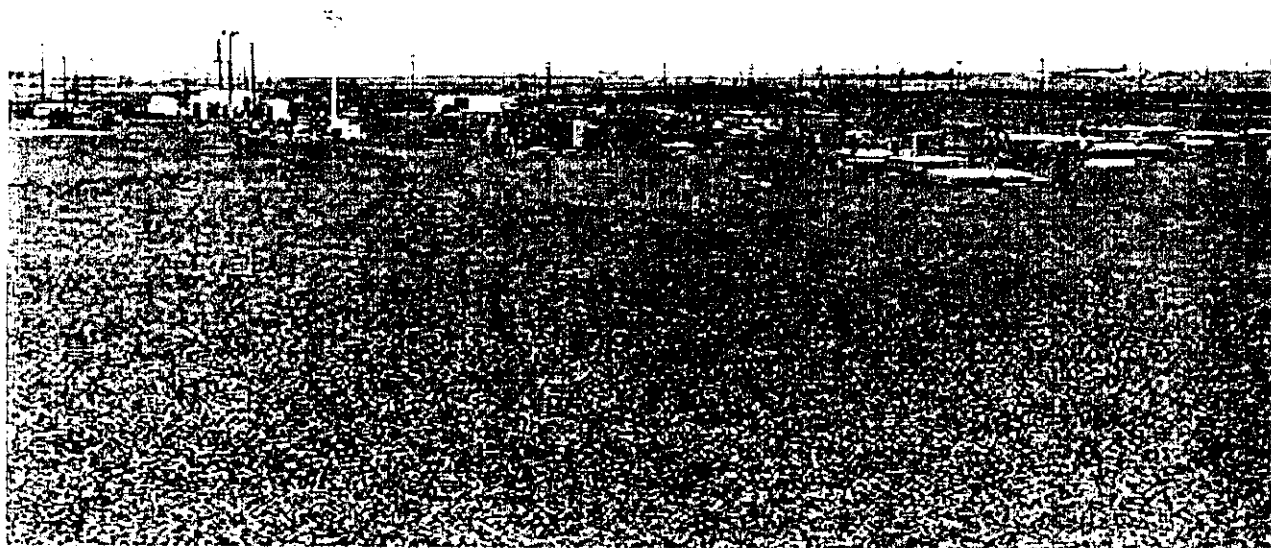
241-SX SINGLE-SHELL TANK FARM



46°32'16"
119°37'44"

96080579-6CN
(PHOTO TAKEN 1996)

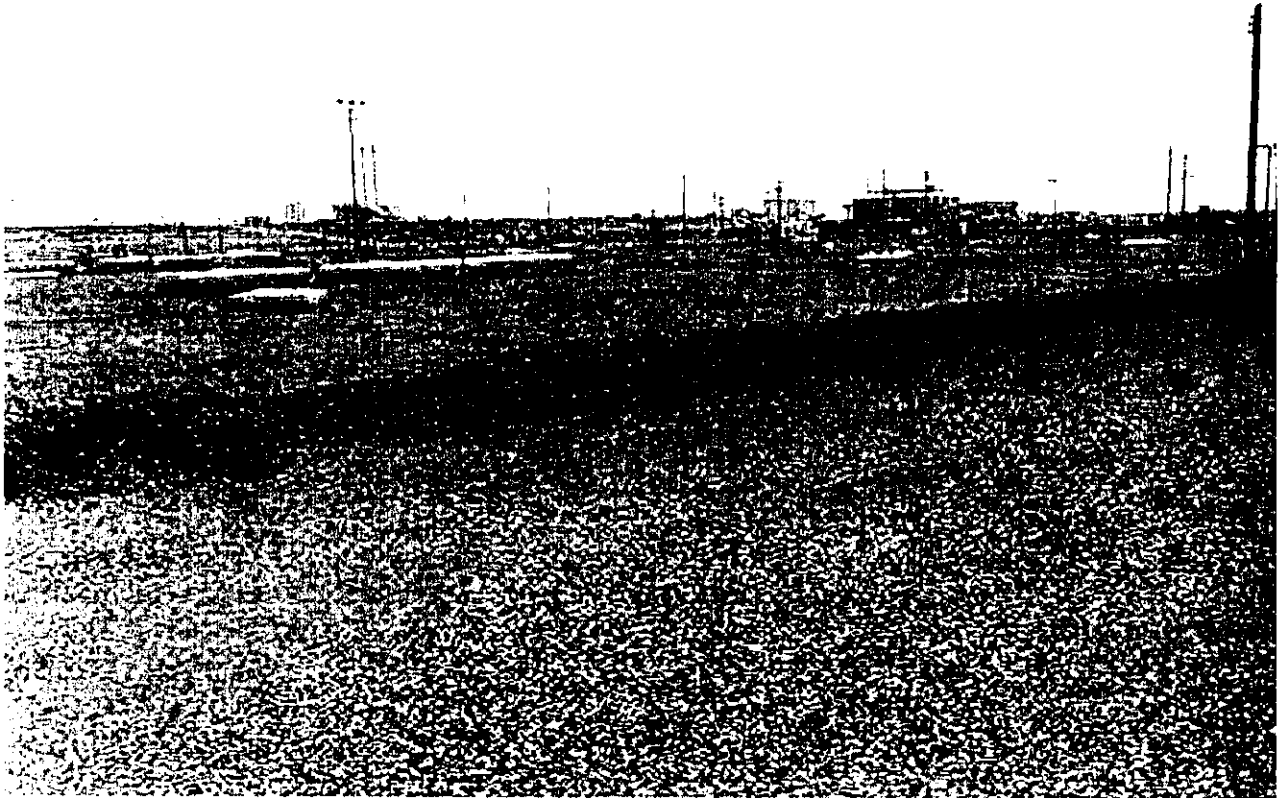
241-T SINGLE-SHELL TANK FARM



46°33'36"
119°37'43"

96070579-13CN
(PHOTO TAKEN 1996)

241-TX SINGLE-SHELL TANK FARM



46°33'20"
119°37'46"

96070579-15CN
(PHOTO TAKEN 1996)

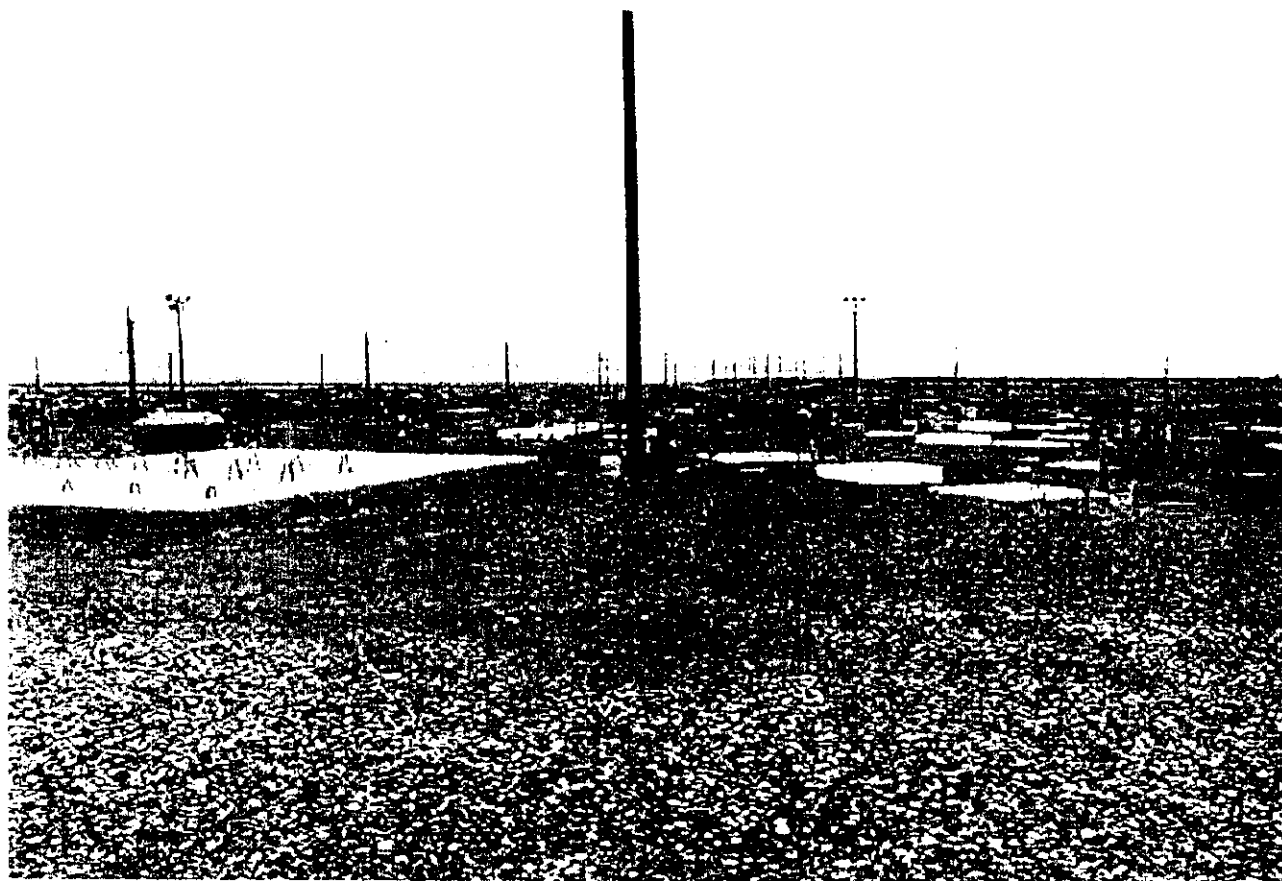
241-TY SINGLE-SHELL TANK FARM



46°33'27"
119°37'27"

96080579-18CN
(PHOTO TAKEN 1996)

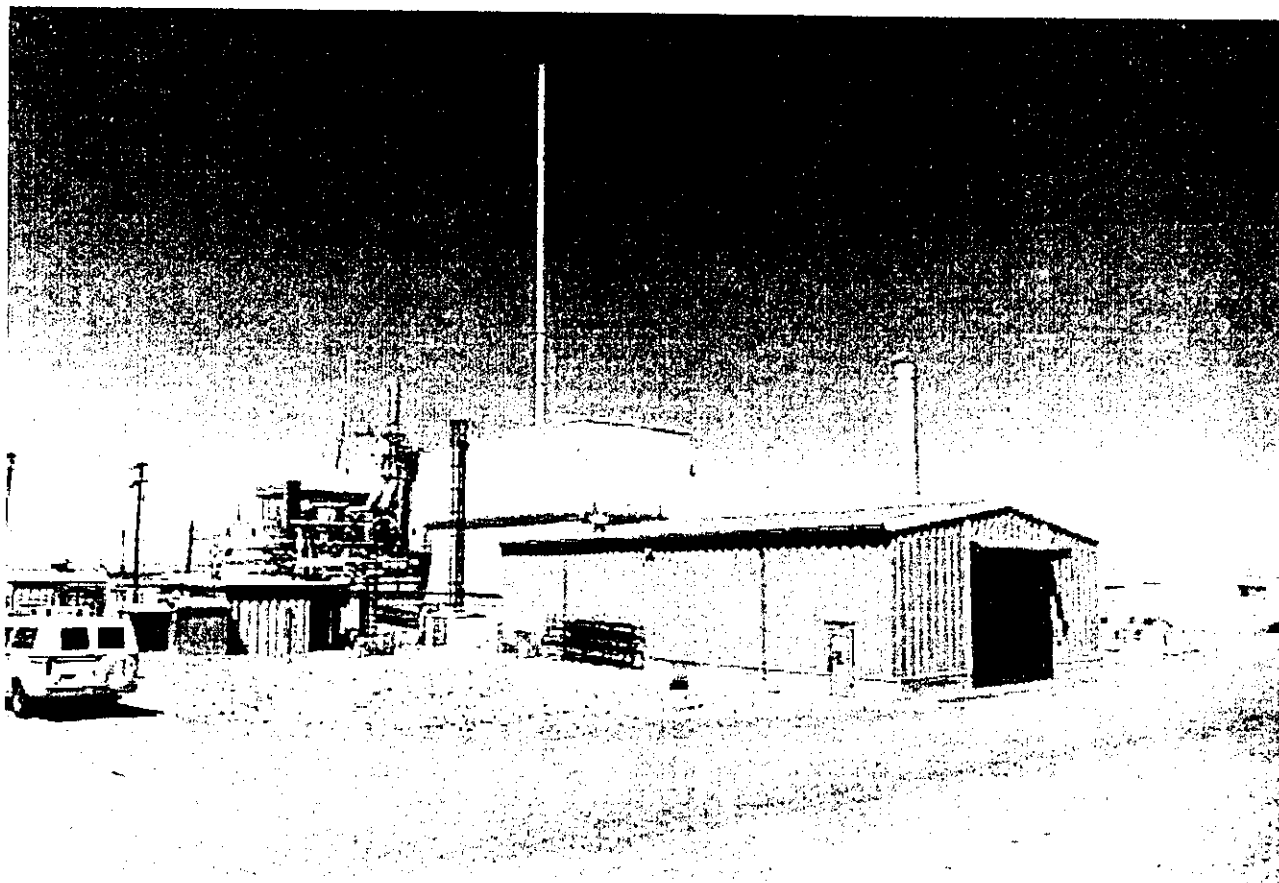
241-U SINGLE-SHELL TANK FARM



46°32'42"
119°37'44"

96080579-9CN
(PHOTO TAKEN 1996)

244-AR VAULTS



46°33'12"

119°31'07"

8704135-16CN
(PHOTO TAKEN 1987)

244-CR VAULTS



46°33'26"
119°31'11"

8704135-14CN
(PHOTO TAKEN 1987)

HANFORD FACILITY DANGEROUS WASTE PART A PERMIT APPLICATION

Revision

VOLUME 1

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4.0	FORM 3 - DANGEROUS WASTE PERMIT APPLICATION		
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